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THE

EXTRA PHARMACOPŒIA

WITH THE

ADDITIONS

INTRODUCED INTO THE BRITISH PHARMACOPŒIA, 1885.

BY

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MEDICAL REFERENCES,

AND A

THERAPEUTIC INDEX OF DISEASES AND SYMPTOMS

BY

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PREFACE TO THE FIFTH EDITION

After a lapse of three years since the publication of the fourth edition, or five years since the issue of the first, another edition of the "Extra Pharmacopœia" has been called for. During this period therapeutics and pharmacy have continued to make progress,—while we have been flooded with a series of preparations, principally of American origin, which owe their popularity in a great measure to the force of advertisement—a number of new remedies have, nevertheless, been introduced, which are proving of great service. Among these is the group of Antipyretics—derivatives of Coal Tar—Antipyrin, Antifebrin, Salol, and Phenacetin. Saccharin, from the same source, has also attracted much attention. A group of Hypnotics, likewise, is undergoing trial, *e.g.*, Hyoscine salts, Paraldehyde, Urethane, Methylal, Sulphonal, and Amylene Hydrate. Cardiac remedies have received valuable additions in preparations of Strophanthus, Sparteine, and Caffeine. The various Digitalis principles are herein more fully described. Urinary diseases have been treated by Salix Nigra, Jambul, Siegesbeckia, Kava-kava, Thalline, and Lycopodium. Among Antisyphilitics we have had the addition of Carbolate and Salicylate of Mercury, "Grey Oil" (for injection), Iodol, the Iodine Compounds of Salicylic Acid, and Bismuth Oxyiodide, for local use. Although Perchloride of Mercury has been in most favour as an antiseptic, its double salt, Sal Alembroth, and Red Iodide of Mercury, as well as Fluosilicate of Sodium, have been brought into use, together with Sphagnum (dried moss) as an absorbent, and for dental work, Eugenol and Solution of Carbolate of Sodium. We insert additional formulæ for preparations of Chian Turpentine, which continues to find favour in the treatment of cancer. For skin diseases, the various Ichthyol preparations have been introduced, and the new bases for the application of topical remedies, Lanolin and Mollin. We also describe the Plaster and Salve Mulls as used by Unna, a list of which is contained in that of the surgical appliances. For diseases of the respiratory organs, the treatments by Sulphuretted Hydrogen, Aniline, and Hydrofluoric Acid, have been before the notice of the medical profession; as dry inhalations, Guaiacol, Eucalyptol and Creasote have been employed; Syrup of Tar, Terebene, and Terpinol have been used internally. For eye affections, Hyoscine salts and Santonate of Atropine are new, and a list of ophthalmic discs is included, with the Cocaine preparations introduced into the Pharmacopœia of the Royal Ophthalmic Hospital. It will be seen under Atropine that the alkaloid naturally existing in Belladonna is Hyoscyamine, not Atropine, and that Hyoscyamine may be more easily converted into Atropine than was supposed. For hypodermic medication, a series of gelatine combinations with active principles has been included. We have added to the preparations of Aluminium, Ammonium, Carmine, Cascara, Cod Liver Oil, Collodion, Ether, Hydrastis, Hypophosphites, Iron, Lithium, Menthol, Nitroglycerine, Potassium, Sodium, Strychnine, Tar, Zinc, and others. Some of the "indifferent" Iron preparations, such as Solution of Albuminated Iron, will merit attention. Cascara has been much used as a laxative; Glycerine, used as an enema or suppository, has proved useful in constipation, and Sulphovinate of Sodium as an agreeable saline aperient. As nutrient preparations, formulæ for Peptonoids of Beef (in use at some of the Hospitals) and for Artificial Human Milk are inserted. As a digestive ferment, Papain has lately attracted more attention. Among the numerous additional formulæ we have embodied those of the "Unofficial Formulary" of the British Pharmaceutical Conference, several hair dyes, new tests, and combinations for pills, *e.g.*, a pill representing, and more palatable than, Donovan's Solution.

We have altogether added about 68 pages of new matter, and by careful revision have deleted about 20 pages of the old. We have abridged the Review of the British Pharmacopœia contained in our last edition into a Synopsis of the alterations that have been made in that work as compared with its predecessor, so that medical practitioners who have not had an opportunity of making themselves acquainted with the last official work, may see at a glance the important alterations that affect their prescribing. As stated in our first preface, the medicines are viewed specially from a pharmaceutical and medical aspect; references to their use, with the doses employed, are given in *précis*. The area of selection is limited by personal experience. Official drugs are introduced where non-official preparations of them are in use, or the official preparations have undergone alteration. The Secondary List of drugs, to which medical attention has been more or less directed, but which have not come into general use, has been extended; the references and the Therapeutic Index have also been much added to. The Index forms a copious Posological Table. As heretofore, except in one or two cases, the pharmacopœial doses for official drugs have been adhered to; the other doses are culled from the best authorities. The terms *Drachm* and *Ounce*, when applied to liquids, are understood to be the Fluid Drachm and Fluid Ounce respectively, as defined by the British Pharmacopœia. When parts are referred to, Solids are to be taken by weight and Liquids by measure, as is generally understood.

In conclusion, we hold that the art of pharmacy should tend towards making medicines palatable, but not at the expense of their efficacy. They should be combined extemporaneously to suit the disease; the reverse method should be avoided, in which the patient is treated by ready-made compounds prepared to suit imaginary cases, as is too much the tendency of the present day.

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METRICAL WEIGHTS AND MEASURES AND THEIR BRITISH EQUIVALENTS.

1 Gramme	= 15·432 grains.
1 Centigramme	= between $\frac{1}{6}$ and $\frac{1}{7}$ grain.
1 Milligramme...	= about $\frac{1}{65}$ grain.
1 Litre	= 35·2754 fluid ounces.
1 Cubic Centimètre (1 c. c. = 1 Millilitrè)	= 17 minims (nearly).
1 Mètre...	= 39·37079 inches.

The Gramme has its decimal multiples—Decagramme, Hectogramme, and Kilogramme; and divisions—Decigramme, Centigramme, and Milligramme. The Litre and Mètre have their corresponding decimal divisions—Decilitre, Centilitre, and Millilitre,—and Decimètre, Centimètre, and Millimètre.

In Continental states, where this system is now generally adopted for the dispensing and preparing of medicines, all liquids are weighed, and the terms Gramme, Centigramme, and Kilogramme only are used. This avoids the possibility of errors, which the similarity of the names Decagramme and Decigramme might lead to.

In Germany the quantities of the ingredients in prescriptions are written in decimal proportions, the gramme being understood to be the unit; the name of the integer is generally not mentioned, thus:

Rhubarb 35· means 35 grammes of Rhubarb.
,, ·035 ,, 35 milligrammes ,,

ABBREVIATIONS.

When the reference is to a periodical, the number put first is the number of the volume; then follow the last two figures of the year, and the last number refers to the page.

B.—Bartholow, R., A Practical Treatise of Materia Medica and Therapeutics.
B.M.J.—British Medical Journal.
B.P.C—Unofficial Formulary, British Pharmaceutical Conference.
Br.—Braithwaite, W. & J., Retrospect of Medicine.
Brunton.—Text-Book of Pharmacology, Therapeutics, and Materia Medica, by T. Lauder Brunton, M.D.
B.S.H.—Pharmacopœia of the British Hospital for Diseases of the Skin.
C. and D.—Chemist and Druggist.
Chem. News.—Chemical News.
Codex.—Pharmacopée Française.
G.—The Essentials of Materia Medica and Therapeutics, by Sir A. B. Garrod, M.D., and N. J. C. Tirard, M.D.
L.—The Lancet.
L.H.—Pharmacopœia of the London Hospital.
M.P.C.—The Medical Press and Circular.
M.R.—The London Medical Record.
M.T.G.—The Medical Times and Gazette.
N.R.—New Remedies—New York.
Off.—*Official*—in the British Pharmacopœia.
P.G.—Pharmacopœa Germanica.
P.J.—Pharmaceutical Journal.
P.L.—Pharmacopœia Londinensis, 1851.
P.M.J.—Provincial Medical Journal.
Pr.—The Practitioner.
R.—Handbook of Therapeutics, by Sidney Ringer, M.D.
R.O.H.—Pharmacopœia of the Royal London Ophthalmic Hospital.
T.H.—Pharmacopœia of the Hospital for Diseases of the Throat.
Th. Gaz.—Therapeutic Gazette, Philadelphia.
U.C.H.—Pharmacopœia of the University College Hospital.
U.S.—Pharmacopœia of the United States.
Y.B.—The Year-Book of Treatment.

A SYNOPSIS
OF THE
PRINCIPAL CHANGES
IN THE
BRITISH PHARMACOPŒIA,
Effected by the Revision of 1885.

Acidum Carbolicum.—Crystallized Phenol, Phenic Acid, or Phenic Alcohol, having Sp. Gr. at melting point of 1·060 to 1·066; melting point must not be lower than 91·5° F. It includes two commercial varieties.—See p. 25.

Acidum Carbolicum Liquefactum.—*New.*—See p. 26.

Acidum Chromicum.—*New.*—See p. 34.

Acidum Hydrobromicum Dilutum.—*New.*—See p. 35.

Acidum Lacticum.—*New.*—See p. 37.

Acidum Lacticum Dilutum.—*New.*—See p. 37.

Acidum Meconicum.—*New.*—See p. 39.

Acidum Oleicum.—*New.*—See p. 265.

Acidum Phosphoricum Concentratum.—*New.*—See p. 40.

Acidum Salicylicum.—*New.*—Either the derivative from carbolic acid, or that from natural salicylates, *e.g.*, oil of wintergreen (crude salicylate of methyl) may be used.—See p. 43.

Alcohol Ethylicum.—*New.*—*Syn.*—Absolute Alcohol. As it has Sp. Gr. 0·797 to 0·8 is not quite absolute; was formerly used as a test only; is now used to prepare ethylate of sodium and chloroform.—See p. 62.

Aloin.—*New.*—This may be obtained from any variety of aloes; it is said their products differ slightly, but medicinal properties are similar.—See p. 64.

Alumen.—May be either potassium or ammonium alum. In former B.P. the latter only was official.

Alumen Exsiccatum.—Is prepared from potassium, *vice* ammonium alum.—See p. 65.

Amylum.—This may be obtained from the grains of maize and rice, as well as from wheat.

Anisi Fructus.—*New.*—The dried fruit of *Pimpinella Anisum.*

Anisi Stellati Fructus.—*New.*—For production of essential oil (which alone was formerly official), is the fruit of *Illicium anisatum*, cultivated in China.

Antimonium Nigrum Purificatum.—Substitutes Antimonium Nigrum. Before use in making preparations, black antimony is to be treated with solution of ammonia, to free it from arsenic.

Apomorphinæ Hydrochloras.—*New.*—See p. 71.

Aqua. In dispensing, *distilled* water only must be used, for which a series of tests are given.

Aqua Anisi.—*New.*—Distilled from anise fruit.

Aqua Laurocerasi.—Is to be so adjusted in strength that it contains 0·1 per cent. of hydrocyanic acid.

Argenti et Potassii Nitras. *New.* See p. 76.

Arsenii Iodidum.—*New.*—See p. 78.

Bismuthi Citras. *New.* See p. 90.

Bismuthi et Ammonii Citras.—*New.*- See p. 90.

Butyl-Chloral Hydras.—*New.*—See p. 94.—*Syn.* Croton-Chloral Hydras.

Caffeina.—*New.*—See p. 95.

Caffeinæ Citras.—*New.*—See p. 95.

Calamina Præparata.—Re-introduced from P.L. 1851.—See p. 238.

Calx Chlorinata, *vice* CALX CHLORATA.

Calx Sulphurata.—*New.*—See p. 99.

Cataplasma Conii.—Is now made from succus evaporated to half its volume, *vice* powdered leaves.

Cataplasma Lini.—Olive oil is omitted. The crushed seed is used.

Chrysarobinum.—*New.*—See p. 118.

Cimicifugæ Rhizoma.—*New.*—See p. 121.

Cinchonæ Cortex.—This, for the production of alkaloids, may be any species of Cinchona or Remijia that will yield them. For other purposes—

Cinchonæ Rubræ Cortex—the dried bark of cultivated plants of C. succirubra—is ordered.-See p.124.

Cinchonidinæ Sulphas.- *New.*—See p. 126.

Cinchoninæ Sulphas.—*New.*—See p. 127.

Coca.—*New.*—See p. 134.

Cocainæ Hydrochloras.—*New.*—See p. 141.

Codeina.—*New.*—See p. 153.

Collodium Vesicans.—*New.*—See p. 108.

Cupri Nitras.—*New.*

Elaterinum.—*New.*—See p. 170.

Emplastrum Belladonnæ.—Is reddish-brown in colour, stronger, and made with the alcoholic extract of the root. See p. 87.

Ergotinum.—*New.*—See p. 173.

Extractum Belladonnæ Alcoholicum.—*New.*—See p. 88.

Extractum Calumbæ.—Is a proof spirit, *vice* aqueous extract.

Extractum Cascaræ Sagradæ.—*New.*—See p. 327.

Extractum Cascaræ Sagradæ Liquidum.—*New.*—See p. 327.

Extractum Cimicifugæ Liquidum.—*New.*—See p. 122.

Extractum Cinchonæ Liquidum.—See p. 124.

Extractum Cocæ Liquidum.—*New.*—See p. 135.

Extractum Gelsemii Alcoholicum. *New.*—p. 195.

Extractum Jaborandi.—*New.*—See p. 232.

Extractum Nucis Vomicæ.—Is made with weaker alcohol, it must be standardised, and contain 15 per cent. of total alkaloids.—See p. 261.

Extractum Opii and Extractum Opii Liquidum.—Are both to be standardised. The former should contain "about" 20 per cent. and the latter "about" 1 per cent. of morphine.

Extractum Rhamni Frangulæ and Extractum Rhamni Frangulæ Liquidum.—Are both *new.* See p. 326.

Extractum Sarsæ Liquidum.—Process improved by treating the root first with proof spirit, and then with water, concentrating the latter and mixing the two liquids, 1=1 of root.

Extractum Taraxaci Liquidum.—*New.*—Is supposed to represent Liquor Taraxaci. The dried root, in No. 40 powder, is exhausted with proof spirit and water, and the fluid concentrated so that 1 ounce=1 ounce of dried root.

Ferrum Redactum.—Is freed from sulphide by improved process.

Gelsemium.—*New.* See p. 194.

Glycerinum Aluminis.—*New.*—See p. 196.

Glycerinum Amyli.—Contains less glycerine, and has one-third of water added.

Glycerinum Boracis.—Is made with glycerine 2 parts and water 1 part.—See p. 197.

Glycerinum Plumbi Subacetatis.—*New.*—p. 198.

Glycerinum Tragacanthæ.—*New.*—See p. 360.

Gossypium.—Absorbent Wool is the kind recognised. —See p. 202.

Hydrargyri Iodidum Viride.—Omitted, without sufficient reason.—See p. 208.

Infusa.—The time required to infuse for buchu, cascarilla, gentian (compound), rhatany, rhubarb, senna, and serpentary is reduced to half an hour; cinchona (acid), cusparia, hop, and valerian to one hour; digitalis to quarter of an hour; and linseed to two hours. To make exact proportional parts, the quassia and digitalis, and some of the ingredients in the compound infusions, have been lessened about 9 per cent.

Infusum Cinchonæ Acidum, *replaces* INFUSUM CINCHONÆ FLAVÆ. —Has red bark 1 ounce in boiling distilled water 20 ounces, with aromatic sulphuric acid ¼ ounce, infused for one hour.

Infusum Digitalis.—Has 28, *vice* 30, grains in 10 ozs.

Infusum Jaborandi.—*New.*—See p. 232.

Injectio Apomorphinæ Hypodermica.—*New.*—See p. 74.

Injectio Ergotini Hypodermica.—*New.*—See p. 173

Injectio Morphinæ Hypodermica, *vice* INJECTIO MORPHIÆ HYPODERMICA, and 1 in 10, *vice* 1 in 12.—See p. 251.

Iodoformum.—*New.*—See p. 221.

Jaborandi.—*New.* See p. 231.

Lamellæ Atropinæ.—*New.*—For ophthalmic use. See p. 81.

Lamellæ Cocainæ.—*New.* See p. 142.

Lamellæ Physostigminæ.—*New.*—See p. 295.

Lini Farina.—Linseed meal is linseed reduced to powder, not freed from oil as formerly.

Linimentum Aconiti.—20 ounces of root produce 30 ounces of liniment, *vice* 20 ounces, but will not in reality be weaker.—See p. 51.

Linimentum Belladonnæ.—20 ounces of root produce 30 of liniment, as Linimentum Aconiti.—See p. 88.

Linimentum Iodi.—Has Glycerine, *vice* Camphor. P.J. 1870, 601.

Linimentum Terebinthinæ.—Has one-tenth of water added.

Linimentum Terebinthinæ Aceticum.—Has an equivalent of glacial, *vice* common acetic acid.

Liquor Acidi Chromici.—*New.*—See p. 34.

Liquor Ammonii Acetatis Fortior.—*New.*—Carbonate of ammonium 15½ ounces is neutralised with acetic acid and distilled water *q.s.* to 3 pints.

Liquor Ammonii Citratis Fortior.—*New.*—Citric acid 12 ounces is neutralised with strong solution of ammonia 11 ounces or *q.s.* and distilled water *q.s.* added to 24 ounces.

Liquor Arsenicalis.—Is about one-eleventh stronger: contains now one per cent. of arsenious acid, or 87 grains in one pint.

Liquor Arsenici Hydrochloricus.—Contains now one per cent. of arsenious acid; is increased about one-eleventh in strength like the above. See p. 77.

Liquor Arsenii et Hydrargyri Iodidi.—*New.*—See p. 78.

Liquor Atropinæ Sulphatis.—Contains 1 per cent. in camphor water, *vice* 1 grain in 120 minims, or 110 grain-measures.—See p. 82.

Liquor Bismuthi et Ammonii Citratis.—*New formula.*—See p. 90.

Liquor Calcii Chloridi.—Re-introduced from P.L. 1836.—See p. 99.

Liquor Calcis.—The slaked lime must be washed till free from chlorides.

Liquor Epispasticus.—New process.—See p. 108.

Liquor Ferri Acetatis and **Liquor Ferri Acetatis Fortior.**—*New.* Ferric hydrate is precipitated by means of excess of ammonia from solution of persulphate of iron 5, diluted with water 40; it is washed, drained, squeezed, and lastly dissolved in glacial acetic acid 3, and water added *q.s.* to 10; after standing, decant. This forms the stronger solution, and of it 1, with water *q.s.* to 4, makes Liquor Ferri Acetatis.

Liquor Ferri Dialysatus.—*New.*—See p. 189.

Liquor Ferri Perchloridi Fortior.—Has Sp. Gr. 1·42. Process improved. Must stand Reinsch's test for freedom from arsenic,—important.

Liquor Iodi.—Is slightly stronger.—See p. 227.

Liquor Morphinæ Acetatis.—Is one-eleventh stronger; contains 1 per cent.—See p. 253.

Liquor Morphinæ Bimeconatis.—*New.*—See p. 254.

Liquor Morphinæ Hydrochloratis.—Contains 1 per cent.; is one-eleventh stronger.—See p. 254.

Liquor Potassii Permanganatis—Contains now 1 per cent. and is one-eleventh stronger.—See p. 311.

Liquor Sodæ Chlorinatæ.—Now made by the double decomposition of chlorinated lime 2, carbonate of sodium 3, in distilled water 20. Is about one-fourth stronger than U.S. preparation.

Liquor Sodii Arseniatis.—Is about one-eleventh stronger, contains now 1 per cent. of the dried arseniate.—See p. 79.

Liquor Sodii Ethylatis.—*New.*—See p. 336.

Liquor Strychninæ Hydrochloratis.—Is about one-eleventh stronger; contains 1 per cent. of strychnine.—See p. 344.

Lupulinum.—*New.*—See p. 241.

Magnesia Ponderosa, *vice* MAGNESIA.

Magnesii Carbonas Ponderosa, *vice* MAGNESIÆ CARBONAS.

Mel Boracis.—Has one-eighth of glycerine added.

Menthol.—*New.*—See p. 245.

Mistura Gentianæ.—Is omitted.

Morphinæ Sulphas.—*New.*—See p. 255.

Mucilago Tragacanthæ.—*New process.*—See p. 360.

Oleatum Hydrargyri.—*New.*—See p. 266.

Oleatum Zinci.—*New.*—See p. 269.

Oleo-Resina Cubebæ.—*New.*—Cubebs are exhausted with ether, which is evaporated or distilled off; the residue, on standing, is to be separated for use as oleo-resin, from the waxy crystalline deposit.

Oleum Eucalypti.—*New.*—See p. 179.

Oleum Phosphoratum.—Is stronger; contains about 1 per cent. of phosphorus.—See p. 287.

Oleum Pini Sylvestris.—*New.*—See p. 304.

Oleum Santali.—*New.*—See p. 271.

Oleum Theobromatis, *vice* OLEUM THEOBROMÆ.

Opium.—May now be obtained from any source for making alkaloids, but that from Asia Minor must only be used for making galenical preparations, and for these it must, when dried and powdered, according to test, yield 10 per cent. of morphine (not less than 9·5 or more than 10·5 per cent.).

Paraffinum Durum.—*New.*—See p. 276.

Paraffinum Molle.—*New.*—See p. 277.

Physostigmina.—*New.*—See p. 295.

Pilocarpinæ Nitras.—*New.*—See p. 233.

Pilula Colocynthidis Composita.—Has resin of scammony, *vice* scammony.

Pilula Aloes et Myrrhæ, Pilula Rhei Composita and Pilula Saponis Composita.—Have glycerine as part excipient; is bad for Pilula Rhei Composita.

Potassii Cyanidum.—*New.*—See p. 310.

Pulvis Cretæ Aromaticus.—*May* be prepared of a bright yellow colour, if desired.

Pulvis Elaterini Compositus, *vice* PULVIS ELATERII COMPOSITUS. — Has 1 of Elaterin to 99 of sugar of milk.—See p. 170.

Pulvis Glycyrrhizæ Compositus.—Is the German formula, excepting that sublimed sulphur is ordered in place of washed sulphur.—See p. 201.

Pulvis Rhei Compositus.—The powdered Rhubarb must be free from oil, to enable this preparation to mix with water; heavy magnesia may be used to produce a more condensed preparation.

Quininæ Hydrochloras.—*New.*—See p. 319.

Quininæ Sulphas.—New Tests are given for presence of cinchonidine, cinchonine, quinidine, and cupreine. Must not contain "much" more than 5 per cent of sulphates of other alkaloids.

Rhamni Frangulæ Cortex.—*New.*—See p. 326.

Rhamni Purshiani Cortex.—*New.*—*Syn.*—Cascara Sagrada.—See p. 326.

Salicinum.—*New.*—See p. 47.

Sodii Bromidum.—*New.*—See p. 334.

Sodii Iodidum.—*New.*—See p. 337.

Sodii Salicylas.—*New.*— See p. 46.

Sodii Sulphis. *New.*—See p. 52.

Sodii Sulphocarbolas.—*New.*—See p. 32.

Sodium.—*New.*—For making Liquor Sodii Ethylatis.

Spiritus Ætheris Compositus. — Re-introduced from P.L. 1851.—See p. 59.

Spiritus Ætheris Nitrosi.—Is much the same process as in last B.P.; is said to contain "nitrous compounds, aldehyd, and other substances." Should yield by the nitrometer when freshly prepared 7 times, and after being kept not less than 5 times, its volume of nitric oxide gas.—See p. 59.

Spiritus Ammoniæ Aromaticus.—The oils of lemon and nutmeg are distilled with the spirit and some water, the carbonate is dissolved in the solution of ammonia and the last nine ounces of distillate, the solution strained and mixed with the first part of the distilled spirit; has Sp. Gr. 0·886 should be 0·9; must stand test of volumetric solution of oxalic acid for ammonia, and of solution of chloride of barium for carbonic acid.

Spiritus Cinnamomi.—*New.* Oil 1, rectified spirit 49

Spiritus Tenuior.—Is as before: said to contain by weight 49 per cent., and by volume about 57 per cent., of absolute alcohol.

Staphisagriæ Semina.—*New.*—See p. 166.

Stramonii Folia.—Omitted.—See p. 166.

Sumbul Radix.—The dried transverse sections of *Ferula Sumbul.* (? Not in commerce.)

Suppositoria Iodoformi.—*New.*—See p. 224.

Tabellæ Nitroglycerini.—*New.*—See p. 261.

Thymol.—*New.*—See p. 357.

Tinctura Chloroformi et Morphinæ.—*New.*—See p. 118.

Tinctura Cimicifugæ.—*New.*—See p. 122.

Tinctura Cinnamomi.—Is made with rectified spirit.

Tinctura Ferri Acetatis.—Is made by diluting strong solution of acetate of iron 5, with acetic acid 1, rectified spirit 5, and distilled water *q.s.* to 20.

Tinctura Ferri Perchloridi.—Now contains only 25 per cent. of rectified spirit.—See p. 186.

Tinctura Gelsemii.—*New.*—See p. 195.

Tinctura Iodi.—Quantity of iodide of potassium is doubled. P.J. 1870, 601.

Tinctura Jaborandi.—*New.* See p. 232.

Tinctura Kino.—As a menstruum has glycerine 3, water 5, and spirit 12.

Tinctura Nucis Vomicæ.—The extract of nux vomica is dissolved in a mixture of water 1, rectified spirit 4. Contains 1 grain of alkaloids in 1 ounce.

Tinctura Opii.—Must contain 0·75 per cent. of morphine.

Tinctura Podophylli.—*New.*—See p. 309

Tinctura Quininæ.—Is about one-ninth stronger; is made with hydrochlorate, *vice* sulphate of quinine.

Tinctura Sumbul.—Prepared with rectified spirit.

Trochisci Acidi Benzoici.—*New.*—See p. 20.

Trochisci Santonini.—*New.*—See p. 332.

Unguentum Acidi Borici.—*New.*—See p. 22.

Unguentum Acidi Carbolici.—*New.*—See p. 29.

Unguentum Acidi Salicylici.—*New.*—See p. 46.

Unguentum Belladonnæ.—Is prepared with alcoholic extract of belladonna root, not with green extract; mixes and keeps better.

Unguentum Calaminæ.—*New.*—See p. 239.

Unguentum Cetacei.—Has $\frac{1}{50}$ of benzoin digested in it for 2 hours.

Unguentum Chrysarobini.—*New.*—See p. 120.

Unguentum Eucalypti.—*New.*—See p. 180.

Unguentum Glycerini Plumbi Subacetatis, *vice* UNGUENTUM PLUMBI SUBACETATIS COMPOSITUM.—See p. 199.

Unguentum Hydrargyri Nitratis Dilutum.—*New.*—1 to 2 of soft paraffin.

Unguentum Hydrargyri Oxidi Rubri.—Is 1 to 7 of mixed paraffins.

Unguentum Hydrargyri Subchloridi.—Has benzoated lard.

Unguentum Iodi.—Has glycerine, *vice* proof spirit. P.J. 1870, 602.

Unguentum Iodoformi.—*New.*—See p. 224.

Unguentum Potassæ Sulphuratæ.—Has a basis of mixed paraffins.

Unguentum Potassii Iodidi.—Has benzoated lard.

Unguentum Resinæ. — Is softened by the addition of oil of almonds.

Unguentum Sabinæ.—Has benzoated lard.

Unguentum Simplex.—Has benzoated lard.

Unguentum Staphisagriæ.—*New.*—See p. 167.

Unguentum Sulphuris Iodidi. — Has mixed paraffins as a basis.

Unguentum Veratrinæ.—Has a mixed paraffin basis.

Unguentum Zinci Oleati.—*New.*—See p. 269.

Vapor Coninæ.—See p. 158.

Vapor Olei Pini Sylvestris.—*New.*—See p. 304.

Vinum Ipecacuanhæ.—Has 1 ounce of acetic acid to macerate, percolate, and exhaust, by further addition of water, 1 ounce of ipecacuanha; the percolate is evaporated to dryness and dissolved in 1 pint of sherry.

Vinum Opii.—Two drachms contain about 1 grain of morphine.

Zinci Sulphocarbolas.—*New.*—See p. 32.

Benzolated Amylic Alcohol.—In testing red cinchona bark, is used as a solvent for the alkaloids.

Petroleum Spirit.—*New*, as a test for copaiba; should dissolve one-fourth its bulk.

Phenol-Phthalein.—*New.*—A test for alkalinity.—See p. 355.

Solution of Potassio-Mercuric Iodide.—*New.*—*Syn.*—Nessler's Reagent.—See p. 354.

Solution of Litmus.—*New.*—*vice* TINCTURE OF LITMUS.—Litmus is to be exhausted of what is soluble in spirit. The residual litmus is to be digested in distilled water, filtered, and used as a test solution. Gives red with acids, blue with alkalies.

Solution of Yellow Chromate of Potassium.—Used for testing bromide and iodide of potassium.

Tincture of Phenol-Phthalein.—One grain in 500 grains of proof spirit; is used for testing the neutrality of acetates, citrates, and tartrates; it gives an intense red colour with potash or soda. See p. 355.

The omissions, with three exceptions, are parted with without regret. MISTURA GENTIANÆ is still used as an agreeable bitter; and, although now unofficial, asthmatic patients continue smoking STRAMONIUM leaves, from which they receive so much relief; HYDRARGYRI IODIDUM VIRIDE, too, is largely used by surgeons who treat specific diseases. Its supposed instability condemned it without just cause, as the dose, 1 to 3 grains, in the former B. P. was much too large, $\frac{1}{6}$ to $\frac{1}{2}$ grain being the dose usually given and generally with good results. If prepared with a slight excess of mercury and excluded from light, it keeps fairly stable for a considerable time; it remains green and only gives a trace of mercuric iodide to ether when agitated with it; it still continues to be largely prescribed. Changes of nomenclature were made to agree with the theories of modern chemists,—the salts of ammonia, lime, lithia, magnesia, potash and soda are now considered as salts of ammonium, calcium, lithium, magnesium, potassium, and sodium. Alkaloids have the uniform Latinised affix —*ina* (from the U.S. Pharmacopœia), with corresponding English affix—*ine*. Quinia (formerly quina) is now quinina; strychnia, strychnina; morphia, morphina, *Ang.* morphine. It is to be hoped these changes are final. The solutions of active remedies, formerly 1 grain in 2 drachms, are made to contain 1 per cent. but not exactly

—1 grain is dissolved in 99 grain measures or about 110 minims of solvent respectively in each case. In the galenical preparations of cinchona, cultivated red bark replaces yellow and pale bark. The degree of fineness of powders is indicated by Nos. 20 to 60, being the number of parallel wires in a linear inch of the meshes of the sieves used. The directions for preparing such preparations as EXTRACTUM COCÆ LIQUIDUM, LINIMENTUM ACONITI, LINIMENTUM BELLADONNÆ, &c., are absurd, in that we are directed, after maceration, to "transfer to a percolator, and, when the fluid ceases to pass, continue the percolation with more of the spirit," &c. The fluid does not *commence* to pass *until more spirit is added*. Most of the galenical preparations of cinchona, opium, and nux vomica are standardised. Red bark should yield "between" 5 and 6 per cent. of total alkaloids, opium as "nearly" as practicable 10 per cent. of morphine, and tincture of opium "about" 3·3 grains of morphine, in a fluid ounce. The words "between," "nearly," "about," &c., show a tenderness in treating the pharmacist in view of the Adulteration of Food and Drugs Act. They also frequently occur in reference to other preparations, *e.g.*, phosphorated oil contains "about" 1 per cent. of phosphorus, kamala "should yield 4 or 5, or at most 10 per cent. of ash," and sulphate of quinine should not contain "much more" than 5 per cent. of sulphates of other alkaloids.

Representing the quantities in the formulæ in duplicate, by old weights and measures and by parts and fluid parts produces a jumble. Besides the term "grain-measures," we have the term "fluid grains" used without any definition of the latter. We are behind every civilised country in this respect. A bolder stroke would have introduced the metric weights and *measures* complete—measures in addition to weights; we should require both, as, although in other countries liquids are dispensed by weighing, we could not give up dispensing fluids by measure without sacrificing both accuracy and dispatch.

The Posology is defective,—the range of dose is too limited,—the minimum is frequently much too large and the maximum too small. The doses of the preparations of a drug also are not consistent with one another: for example, of Chloroform, the dose is given as 3 to 10 minims; the equivalent dose of this in Aqua Chloroformi

It is said to possess antipyretic properties, and as an antiseptic to be even more powerful than carbolic or salicylic acid.—M.T.G. ii./73,488; P.J. 1875,307.

Four grains of Benzoic Acid with 1 grain of Canada balsam, or 1 minim of glycerine, make a good pill, but it is more frequently administered in solution, as a benzoate.

A saturated aqueous solution, or a solution in spirit or eau de Cologne (about 1 in 40), is very serviceable in relieving urticaria.—R.

A one in 20 solution in rectified spirit, and this diluted with water as required, may be used as an antiseptic solution or lotion. Applied as a dry antiseptic, its dust is irritating to the nostrils of patients and attendants.

Trochisci Acidi Benzoici (*Off.*).

Contain ½ grain in each, with plain sugar; those of T.H. have a red currant basis. Useful as a stimulant voice lozenge.

Ammonii Benzoas (*Off.*).

Dose.—10 to 30 grains, or more.

In colourless laminar crystals; soluble 1 in 5 of cold water, and 1 in 12 of rectified spirit.

Sodii Benzoas.

Dose.—10 to 30 grains; in phthisis, 1 to 4 drachms.

In white granular crystals; soluble 1 in 2 of cold water.

Benzoic Acid and the benzoates have been used in the treatment of phthisis and various febrile diseases, given in large doses, so as to be a germicide to the fever poison.

Benzoate of sodium in distilled water, 5 per cent. solution, is recommended for use as a spray for inhalation in phthisis, &c., to be used to the extent of 7 to 15 drachms daily for an adult, or 15 grains taken 5 to 10 times a day in milk, and continued for several months.—L. ii./79,886; B.M.J. ii./79,982; M.T.G. ii./79,585; Pr. xxiii.415; B.M.J. ii./82,125.

In diphtheria, 2 to 4 drachms daily, with 10 per cent. solution, as a spray inhalation.—Pr. xxiii.453; Pr. xxiv. 128,131.

Benzoate of sodium as an antipyretic. *Dose.*—2 to 4 drachms.—Pr. xxiii.217.

Successful in the treatment of rheumatic polyarthritis where salicylates fail; in dose up to 4 drachms daily.—Pr. xxv. 218.

Use in whooping-cough, scarlet fever, and diphtheria. —M.R. 1880,315.

Editorial notes on therapeutic use in phthisis, &c.— M.T.G. i./79,596; B.M.J. i./80,28,72.

In uræmia is given with success, albuminuria lessens, it inhibits the formation of urea, one to two drachms a day, given hourly.—B.M.J. i/88,90; Th. Gaz. 1888,263.

Diphtheria and tonsillitis are relieved by its internal use.—Th. Gaz. 1888,265.

On the dog, a powerful hepatic stimulant, but not an intestinal stimulant; likely to prove useful in congestion of the liver, jaundice, &c.—B.M.J. i./79,69.

In the treatment of acute rheumatism, doses of 15 to 20 grains every 2 or 3 hours were successful in 5 cases. Should be continued in diminished doses for 24 or 48 hours after the rheumatic symptoms have disappeared.— B.M.J. i./81,836.

Being tasteless, innocuous, and a powerful antiseptic, is suggested as the best preservative of milk, &c.— Chem. News, i./86,130.

Calcii Hippuras, Hippurate of Calcium.

Dose.—5 to 20 grains.

In shining white crystals, soluble about 1 in 50 of water.

Lithii Hippuras, Hippurate of Lithium.— See p. 241.

Sodii Hippuras, Hippurate of Sodium.

Dose.—5 to 30 grains.

Is met with in commerce as a readily soluble white amorphous powder. Both it and the benzoate are recommended in gout gravel, and calculus as solvents for urates, an alkaline citrate being added if the urine of the patient be abnormally acid; hippuric acid salts react on urates in solution, and in time no trace of uric acid can be detected. Unlike the other organic salts of alkalies in which the acid radicle is decomposed by passing through the system, when taken, Benzoates and Hippurates are found in the urine as Hippurates.—L. i./83,487,579,669.

ACIDUM BORICUM.

Boric Acid (*Off.*).—*Syn.* BORACIC ACID.

Dose.—5 to 30 grains, or more.

In white, pearly, laminar crystals, unctuous to the touch, without odour; has a bitterish, cooling, not acid taste. Obtained for medical purposes from borax, by the action of sulphuric acid. Soluble 1 in 26 of cold water, 1 in 3 of boiling water, 1 in 22 of rectified spirit, 1 in 5 of glycerine at 32° F., 7 in 10 at 212° F., slightly soluble in volatile oils. May be made into pills with glycerine of tragacanth, or with a fifth of its weight of cream of tartar and water.

It possesses mild antiseptic and antiputrefactive properties, but is not destructive to all low organic growths, *e.g.*, mould fungus.

Glycerinum Acidi Borici, 1 in 5.

Gossypium Acidi Borici, T.H.—See p. 203.

Linteum Acidi Borici.

Lint impregnated with Boric Acid, by passing it through a hot saturated solution coloured with cochineal or litmus, and then dried. It contains about half its weight of Boric Acid.

Lotio Acidi Borici.

Boric Acid, 1; hot water, 20. Dissolve, and when cold use the clear solution.—L. i./75,603.

Pastillus Acidi Borici, T.H. See p. 200.

Useful in aphthous affections of the mouth and throat.

Pessus Acidi Borici.

Ten grains in each, with oil of theobroma.

Styles of Boric Acid for the lachrymal sac and duct are prepared two inches long.

Suppositorium Acidi Borici.

Three grains in each, with oil of theobroma.

Useful in pruritus.

Unguentum Acidi Borici (*Off.*).

Boric Acid, in fine Powder	1
Soft Paraffin	4
Hard Paraffin	2

Melt the paraffins together, sift the Boric Acid into the liquid, and stir till cold. This ointment contains one part of acid in seven parts. It is slightly weaker, but of the same consistency as the ointment No. 2 (see below), which it is intended officially to represent.

Unguentum Acidi Borici (Sir Joseph Lister).

White Wax...	1
Paraffin	2
Almond Oil	2
Melt, and add in fine powder	
Boric Acid, warmed	1

Mix, and stir till it thickens. Set aside, and when solid reduce by rubbing in successive portions to an uniform smooth ointment.—L i./75,787.

Unguentum Acidi Borici (Martindale).

	No. 1.	No. 2.	No. 3.
Paraffin (135° or 140°)	5	5	5
Vaseline	5	10	15
Boric Acid, in fine powder	2	3	4

Melt the paraffin and vaseline together; sift the Boric Acid into the liquid, and stir constantly till cold. These three ointments contain the same quantity of Boric Acid, or 1 to 5 of basis; they are also made **half** and **quarter strength**, *i.e.*, 1 of the acid to 11 and 1 to 23 of basis respectively. The ointment of full strength is used where cavities exist; the others to superficial wounds which it is desired to heal rapidly.

Boric Acid ointment is applied to surface wounds, burns, eczema, and other sores, as an antiseptic dressing and "healing ointment." On removal, it should leave the wound "clean"—it should adhere to the material on which it is spread, not so much to the sore. It is applied more like a plaster than an ointment. The hard ointment of Sir Joseph Lister is not now much in request. The No. 2 ointment, spread on lint or rag, is most suitable for general use, except in the summer, when it is sometimes too soft. No. 1 should then be used, and for smearing on No. 2 is sometimes too hard, when No. 3 should be used. It is very useful in pruritus ani et pudendi. Boric Acid ointment is also very serviceable as a dressing in the minor surgery on shipboard, steamers particularly. For hot climates, Lister's or No. 1 should be used.

Boric Acid was the basis of two Swedish nostrums—Aseptin, a powder, and Aseptin Amykos, a liquid, used in the preservation of articles of food and as an application to wounds. These, on being tested, were shown to owe their virtues to Boric Acid, which is now one of the principal agents in the antiseptic treatment. Boric Acid is also used largely in some parts of England and other countries for the preservation of milk. It is mild, and perfectly unirritating; even mechanically, the crystals do not irritate the skin, mucous membrane, wounds, ulcers, or granulating sores. Its powder, mixed with starch, forms a useful "dusting powder" for infants, &c. It checks the fœtor of perspiration. A little Boric Acid powder sprinkled in the socks or stockings prevents the disagreeable odour of sweating feet. The ointment is used as above described. The lotion and lint are useful in ulcers of the legs and elsewhere. A piece of protective oiled silk, sufficient to cover the sore exactly, is dipped in the boric lotion and first applied, and over this a piece of boric lint, also soaked in the lotion, large enough to extend an inch beyond the protective, is kept *in situ* with a bandage. Boric Acid and Borax with glycerine or honey form valuable applications for aphthæ and stomatitis. Glycerine of Boric Acid is useful for tender corns, and the powdered acid wards off fleas, flies, cockroaches, &c.

Salve Mulls are spread with **Boric Ointment,** 10 per cent.

Description and antiseptic uses of Boric Acid lotion, lint, and ointment.—L. i./75,603,717,787.

As an ordinary dressing for wounds, either as lotion, lint, or ointment, it is an antiseptic that neither irritates nor inflames.—L. i /76,734.

Boric Acid ointment useful as an antiseptic and healing ointment; wounds kept sweet two days, and dressings removed without disturbing the healing process.—B.M.J. ii./77,411.

Boric Acid lotion checks the bad odour from excessive perspiration of the feet—used to wash the stockings and bathe the feet daily.—B.M.J. ii./80,463; Pr. xxv.371; Pr. xxvii.401.

As a cerate, 10 grains to an ounce for tinea tarsi, and as an eye lotion is very useful in purulent ophthalmia and conjunctival congestion.—Pr. xxv.56.

Leucorrhœa cured by packing the dry powdered acid into the vagina.—B.M.J. ii./87,521.

Boric Acid neither checks the peptonising action of the gastric juices or the pancreatic secretion, nor the conversion of starch into glucose by the pancreatic or salivary secretions; yet it checks putrefactive fermentation, and a small quantity prevents the conversion of alcohol into acetic acid, while on the other hand the conversion of glucose into alcohol is favoured by the presence of even a very minute quantity of the acid.—P.J. 1882,187. Given in 10-grain doses internally to sterilize the urine before operations on the urethra.—Y.B. 1888,206; B.M.J. i./88,1165.

Boroglyceride.

A patented preparation, made by heating 92 parts of glycerine with 62 parts of Boric Acid. A tough, deliquescent mass is produced, readily soluble in water and alcohol. It is recommended as a powerful antiseptic and preservative of meat, fish, milk, and other food—1 in 40 of water is used. It is also used as a surgical dressing, and given internally in aqueous solution, or in pills combined with althæa.

Use in the treatment of wounds.—L. i./82,774,937; L. ii./82,841; and in purulent ophthalmia.—L. i./83,278.

For otorrhœa.—Pr. xxxiii.47.

Liquor Magnesii Boratis.

Carbonate of Magnesium 233, Boric Acid 1550, boiling water 7500. Contains Boric Acid about 1 in 6. Is said to be the composition of **Antifungin.** Is recommended as a paint for diphtheria.—B.M.J. ii/87,526.

ACIDUM CARBOLICUM.

Carbolic Acid (*Off.*).—*Syn.* PHENIC ACID; PHENOL; HYDRATE OF PHENYL; PHENYL ALCOHOL.

Dose.—1 to 3 grains.

In colourless crystals liable to become pink; neutral to test paper; obtained commercially from coal tar. The purest acid of commerce—Absolute Phenol or No. 1—melts at from 104° to 107° F. If, while liquefied, 6 to 10 per cent. of water be added, it becomes hydrated and remains liquid, unless exposed to a low temperature. It dissolves freely in alcohol, ether, chloroform, glycerine, fixed and volatile oils, fats, melted resins,—in vaseline about 1 in 20, water at 56° F. 1 in 14, at 95° F. 1 in 12. With a less quantity of water it forms an oily mixture, not a perfect solution, unless heat be applied; at 155°F. Carbolic Acid and water mix and dissolve in all proportions.

Carbolic Acid is a powerful antiseptic, antiputrefactive, and disinfectant, and applied locally, it has an anæsthetic action, similar, but inferior to, that of cocaine.

Commercial Varieties in general use.

Absolute Phenol, in 1 lb., 4 oz., and 1 oz. stoppered bottles.

Detached crystals, slightly hygroscopic, taste pungent succeeded by a sensation of coldness in the mouth.

No. 1 Carbolic Acid, in 1 lb. bottles.

Of the same degree of purity as Absolute Phenol, but occurring in solid acicular crystalline masses. One part of either absolute phenol or No. 1 acid will make a perfect solution in 14 parts of water at 56° F. These are best adapted for surgical and medical use. They have not the slightest disagreeable odour.

No. 1 Carbolic Acid, *Liquid.*

Ten per cent. of water added to the above. It remains liquid at the ordinary temperature.

No. 2 Carbolic Acid, *Crystals,* in 1 lb. bottles; and

No. 2 Carbolic Acid, *Liquid,* in 6 oz. bottles, or in bulk.

These make a clear solution in 18 parts of water, are suitable for many surgical purposes, and, as they have no disagreeable odour, they are, being less costly than the above, adapted for use in the sick-room; 1 in 40 may be sprinkled about, &c.

No. 4 Carbolic Acid, *Liquid,* in 16 oz. bottles, or in bulk.

This consists of about 20 per cent. Carbolic Acid and 80 per cent. cresylic acid, and is suitable for use as a household disinfectant for drains, sinks, water-closets, urinals, &c. A solution 1 in 40 of hot water is best used at night. It is colourless or pale straw coloured.

No. 5 Carbolic Acid, *Liquid,* in gallon jars or bulk.

Is adapted for stable use, dust-bins, &c.

Acidum Carbolicum Liquefactum (*Off.*).

Carbolic Acid liquefied by the addition of 10 per cent. of water.

Carbolate of Mercury.—See p. 206.

Carbolic Acid, Camphorated.

Absolute Phenol	12
Camphor	4
Water	1

Melt or rub together till liquefied. Remains liquid at low temperatures, but is not miscible with water.

A useful wound dressing, and injected to abort boils. Pr. xl.128. It is also used as a pigment to the cervix uteri.

Carbolic Acid Gauze, Carbasus Acidi Carbolici. In 6-yard pieces.

Unbleached cotton gauze, medicated with half its weight of—Carbolic Acid, 1; Resin, 4; Paraffin, 4. B.M.J. ii./71,227; P.J. 1872,41; L. ii./79,901.

Carbolic Acid Lotion.

Carbolic Acid 1, Water 19 or more.

Carbolic Oil.

Carbolic Acid, crystals	1
Olive Oil	9 (more or less, if ordered).

A modification of this, known as **Lund's Oil,** is used for oiling catheters; it is—

Absolute Phenol	1
Castor Oil	4
Olive Oil	11

As the olive oil crystallizes in winter, the following answers better:—

Absolute Phenol	1
Castor Oil	7
Almond Oil	8

Carbolised Catgut Ligatures. Nos. 0, 1, 2, and 3. No. 0 is finest.—B.M.J. i./69,303; P.J. 1872,41; Pr. xxv.372.

Carbolised Iodine Solution.

Tincture of Iodine...	45
Absolute Phenol	6
Glycerine	450
Hot Water	2,250

Becomes decolorised.

As a pigment in diphtheria, or as a gargle or inhalation. Internally for Asiatic cholera.—L. ii./83,566.

Useful as a nasal douche in ozæna.—L. ii./67,119; L. ii./83,845,935.

Carbolised Silk, for Ligatures.

Carbolic Acid, in crystals, 1; Yellow Wax, melted, 9.

Dissolve the acid in the wax, soak the silk in the solution and draw it through a cloth to remove the superfluous wax.

Carbolised Tow.

Tow impregnated with tar, and containing 10 per cent. of Carbolic Acid.

Carbolised Wool, in 1 lb. packets.

Cotton wool charged with 6 per cent. of Carbolic Acid.

Capsules of Carbolic Acid.

Contain one drachm in each glass tube, sufficient for half a pint or a pint of lotion; are portable and suitable for the use of obstetricians and surgeons.

Glycerinum Acidi Carbolici (*Off.*).

Carbolic Acid, crystals, 1; Glycerine, 4.

For Hay Fever, Glycerine of Carbolic Acid 1 ounce, Hydrochlorate of Quinine 30 grains, with $\frac{1}{2000}$ part Perchloride of Mercury added, forms a useful pigment for the nasal passages.—L. i./88,1169.

Iodized Phenol.

Iodine	1
Liquid Carbolic Acid, by weight ...	4

Rub together and digest till dissolved.

For intra-uterine medication on cotton "lap."—B.M.J. i./80,471, and Pr. xxv.297. Useful also as an application for ringworm of the scalp.

Mackintosh Sheeting, Pink Hat-lining of Commerce.

Used as an antiseptic dressing.—B.M.J. ii./71,227.

Oiled Silk Protective.

Oiled silk coated on both sides with copal varnish, and when dry brushed over with—

Dextrin	1
Starch	2
Carbolic Lotion (1 in 20)	16

B.M.J. i./71,31; P.J. 1872,42. For use, see p. 30.

Pastillus Acidi Carbolici, T.H.

Carbolic Acid	½ grain.
Glyco-gelatine	18 grains.

Antiseptic and stimulant.

Perles of Carbolic Acid.

Globules of carbolic oil, containing one grain of Carbolic Acid in each. *Dose.*—1 or 2.

Pilula Acidi Carbolici.

Absolute Phenel	2 grains.
Glycerine	¼ minim.
Powdered Althæa	3 grains.

Makes a good pill. *Dose.*—1.

Smelling Salts, Carbolised.

Absolute Phenol	24
Carbonate of Ammonium	16
Strong Solution of Ammonia ...	44
Oil of Lavender	1½
Camphor	3
Pine Sawdust (sifted)	*q.s.*

For coryza, hay fever, influenza, &c.

Suppositorium Acidi Carbolici.

Oil of Theobroma, melted ...	14 grains.
Absolute Phenol	1 grain.

The Suppository of Carbolic Acid with Soap (*Off.*) is almost useless, it dissolves so slowly.

Trochisci Acidi Carbolici, T.H.

One grain in each (nominally).

Unguentum Acidi Carbolici (*Off.*).

Carbolic Acid, 1, Soft Paraffin, 12; Hard Paraffin, 6. Melt and stir till cold.

Useful for smearing the hands previous to operations, examination of ulcers, &c.

Salve Mulls are spread with lead plaster and **Carbolic Acid** 10 per cent.

Vapor Acidi Carbolici, T. H.

20 drops of No. 1 liquid acid in a pint of water at 140° F. As a spray, 3 drops to an ounce of water.

Carbolic Soaps.

For household, toilet, and medical purposes, are prepared of various strengths up to 20 per cent.

Carbolic putty and Carbolic lac plaster have fallen into disuse.

Preservative Solution for Anatomical Subjects.

Carbolic acid 1 pound, Glycerine 4 pints, Methylated Spirit 4 pints. Used for injection into the aorta.

Wickersheimer's Preserving Liquid.

	For Injection.	For Immersion.
Arsenious Acid ...	16 grammes.	12 grammes.
Sodium Chloride ..	80 ,,	60 ,,
Potassium Sulphate ..	200 ,,	150 ,,
,, Nitrate ..	25 ,,	18 ,,
,, Carbonate	20 ,,	15 ,,
Water	10 litres.	10 litres.
Glycerine .	4 ,,	4 ,,
Wood Naphtha .	¾ ,,	¾ ,,

References.

For gradual development of the surgical uses o Carbolic Acid—Listerism—in the Antiseptic Treatmen of wounds, compound fractures, abscesses, &c., *vid* L. i /68,326,357,387,507; L. ii./68,95,335,668; L. ii./75,515; L. ii./79,901; B M.J. ii./68,53,101,461,515 B.M J i /69,301; B M J. ii./69,601; B.M.J.ii./70,243 B.M J.i./71,30; B M.J.ii./71,225, B.M.J. ii /75,769 B.M J. ii /77,465,901; Dub., Jour. Med. Sci Sept. 1875,229, Aug 1879,97.

As at present used in surgery, the details are given in the Plymouth and Dublin Addresses.—B.M.J. ii./71,225 L ii /79,901; Dub. Jour. Med. Sci. Aug. 1879,97; P.J. 1872,21,41.

Debate on.—L ii /79,922; B.M.J. ii /79,906,1001.

Short Directions for Carbolic Dressing.—*a.* Before and during the operation.—(1) Carbolic Acid spray Steam passing through a solution of 1 part of Carbolic Acid to 20 parts of water. (2) Sponges, hands of operators, &c., dipped in solution of Carbolic Acid: 1 in 20. (3) Instruments covered with oil containing one-tenth part Carbolic Acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in Carbolic Acid solution: 1 in 20. *b* After operation.—(1) A strip of lint soaked in an oily solution of Carbolic Acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first (and, if necessary, following) days. Either of them is cut off flush with the edge of the wound. (2) Over this is placed the protective, in which a small hole is cut, corresponding with the end of the drainage tube The protective consists of a layer of oiled silk, coated on both sides with copal varnish and afterwards brushed over with dextrin, which latter enables it to become uniformly moistened when dipped into solution of Carbolic Acid: 1 in 40. It is thus immersed just before being laid upon the wound, and is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. Then (3) seven layers of the antiseptic gauze. (4) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (5) Then another layer of antiseptic gauze is applied; and, finally, (6) carbolised bandages, or elastic india-rubber web bandage round the edges of the dressings to insure that these are always in contact with the skin.—M.R. 1879,409 (modified).

Results of Antiseptic treatment of 100 cases of ovariotomy.—B.M.J. i./80,243.

Diluted sulphuric acid, 10 minims, every hour, recommended as an antidote for internal poisoning by Carbolic Acid.—L. i /80,702.

In poisoning by absorption from antiseptic dressings a lotion of 5 per cent. solution of sulphate of sodium is an efficient antidote.—Pr. xxiv.300.

Abstract of 172 cases of antiseptic abdominal sections. —L. i./81 101; B.M.J. i./81,122.

In poisoning by about 1½ ounces of common acid, apomorphine caused emesis with recovery.—L. ii./83,280.

Sawdust enclosed in gauze and charged with phenol 1, spirit 9, recommended as padding and external dressing for wounds.—L. ii./83,494.

In poisoning by Carbolic Acid, the circulation outlives the respiration; atropine counteracts its poisonous action in this respect.—L. ii./84, 418.

The use of Carbolic lotion keeps off flies and other insects.—L.i./87, 1297.

As Carbolic Acid coagulates albumen, it is sometimes employed in the strong liquid form as a caustic. Anointing with oil any part accidentally touched with it will, to a certain extent, neutralise its caustic action. Camphorated Carbolic Acid is used with advantage in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—R. One in 80 or more of water as a vaginal injection, in leucorrhœa, uterine ulceration, and cancer, cleanses, heals, disinfects, and allays pain. Glycerine of Carbolic Acid is useful in ringworm; and an ointment, 10 to 30 grains of the acid to an ounce of lard, or added to other ointments is efficacious in various parasitic skin diseases. As an inhalation Carbolic Acid lessens and disinfects the over abundant expectoration in bronchitis and gangrenous lung. The pastil, lozenge, or gargle 1 in 100 of water is useful in sloughs of the mouth or throat.

Carbolic Acid is freely soluble in caustic alkaline solutions, and a French specialty, known as *Phenol Sodique*, is much used as an antiseptic solution by dentists. Its composition is about as follows:—

Liquor Sodii Carbolatis.

Phenol 8, Caustic Soda 4, Distilled Water 100.

Internally, in peppermint water, or better, the pilula acidi carbolici or perle is useful in flatulency with great distention, unaccompanied by pain; attention has been called (L. ii./87, 986) to its antipyretic action; it is often combined with rhubarb and extract of nux vomica —a minute quantity of glycerine added will make these combine to form a pill; but Carbolic Acid is more frequently administered as a sulphocarbolate.

Sulphocarbolates of Ammonium, Calcium, Iron, Magnesium, Potassium, Sodium, and Zinc have been used. The action of sulphuric acid on Carbolic Acid with heat produces sulphocarbolic acid, which crystallizes with difficulty.

Sodii Sulphocarbolas (*Off.*).

In white acicular crystals, like sulphate of magnesium. Soluble 1 in 5 of water. *Dose.*—10 to 15 grains in 1 ounce of water.

In flatulency immediately after meals, give dose prior to food; if the attack occurs some time after food give dose half an hour after meals.—R.

Use in cholera, and the dyspepsia of phthisis.—L. i./69,496, and i./68,144.

Internal use in diphtheria reduces temperature; must be continued some time to prevent relapse.—L. ii /83,448.

Zinci Sulphocarbolas (*Off.*).

Crystals in rectangular colourless plates. Soluble 1 in 2 of water.

Useful in gonorrhœa and leucorrhœa; 2 or 3 grains dissolved in an ounce of water for vaginal or urethral injection.

Aseptol.—*Syn.* SULPHO-CARBOL; ORTHOXYPHENYL-SULPHUROUS ACID; ACIDUM SOZOLICUM.

Is prepared by mixing in chemically equivalent parts strong sulphuric and carbolic acids, removing the excess of sulphuric acid by carbonate of barium. It is a reddish, volatile, viscous liquid, neither corrosive nor irritant. It has an odour like carbolic acid. Sp. Gr. 1·45. It dissolves readily in water, alcohol, and glycerine; is more strongly antiseptic and disinfectant than either carbolic acid or salicylic acid; it combines directly with bases, forming salts. It has been given internally in doses larger than carbolic acid.—Rep. de Pharm. 6, 1884, *ex* Journal de Pharm. d'Anvers; Med. Rec. 1885,342; B.M.J. i./87,29.

A 33 per cent. **solution,** having Sp. Gr. 1·168, and a straw colour, is supplied in commerce. Is slightly caustic, and hardly at all toxic; recommended in preference to carbolic acid.—L. ii./85,548.

In gingivitis and pyorrhœa a 3 per cent. **solution** useful, reduces swelling, arrests flow of pus, and the gums return to their natural shape.—P. J. 1887,884, *ex* Brit. Jour. Dent. Sci.

Trichlorphenol.—*Syn.* TRICHLORPHENIC ACID.

A derivative of carbolic acid, in which 3 atoms of hydrogen are replaced by 3 of chlorine; has been used in St. Petersburg as a disinfectant, is said to be 25 times stronger than carbolic acid. It may be prepared by acting on carbolic acid with chlorinated lime. Is in white acicular crystals, with a disagreeable tarry odour, pungent taste, entirely volatilised by heat. Is very soluble in alcohol, ether, glycerine, fixed and volatile oils; also in hot vaseline, but it crystallizes out on cooling; it is insoluble in water, but forms soluble salts with bases. Those of calcium and magnesium have been used medically; the solid substance is but little irritating to the tissues, and the solutions not at all.

In purulent ophthalmia a 2 per cent. and weaker solutions of Trichlorphenate of Magnesium in 12 cases, with average of nine days' treatment, cures complete.—B.M.J. i./85,69.

ACIDUM CATHARTICUM.

Cathartic Acid.

Dose.—4 to 8 grains for adults, in pills with glycerine of tragacanth; or 2 to 3 grains in syrup.

A chocolate brown amorphous glucoside isolated by Dragendorff from Alexandrian senna—the leaflets of *Cassia acutifolia* (*C. lanceolata P B*). It has the mild purgative properties of the drug, but not its unpleasant secondary action of causing nausea, vomiting or griping, it is almost tasteless, and being soluble in water it is easily administered, sweetened with syrup —P.J. 1871,222.

ACIDUM CHROMICUM.

Chromic Acid (*Off*).—*Syn*. CHROMIC ANHYDRIDE.

In deliquescent, crimson, acicular or columnar crystals. It is odourless, and a powerful oxidising agent, decomposing alcohol, glycerine, &c, with evolution of heat. For use as a caustic, should be free from sulphuric acid, as then it does not spread over the surrounding tissue not requiring its action

A watery solution—1 in 4, or stronger— is applied with a pointed glass rod to warts on genitals, to condylomata and lupus; and 1 in 40 to ulcerated gums, and syphilitic affections of tongue, pharynx, and larynx.—Pr. xxx 175

Chromic Catgut Ligatures (*new*). Nos. 0, 1, 2, and 3. No. 0 is finest (Lister).

Take of Catgut, on the stretch, 5 parts, and immerse for twelve hours in chromic acid 1 part, distilled water 100 parts; transfer, after removing the excess of liquid with a cloth, into 100 parts of sulphurous acid, in 12 hours take out and dry the gut, and keep it dry. Before using, place it along with the instruments for 15 minutes in 1 in 20 carbolic acid lotion.

Liquor Acidi Chromici (*Off.*).—1 to 3 of water

Acidum Chrysophanicum.—See p. 119

ACIDUM HYDROBROMICUM DILUTUM.

Diluted Hydrobromic Acid (*Off.*).

Dose.—15 to 50 minims; 60 minims = 10 grains of bromide of potassium.

An aqueous solution containing 10 per cent. by weight of gaseous hydrobromic acid. Sp. Gr. 1·077.

It is a colourless, very sour liquid, without odour. Evaporated to dryness, it leaves little or no residue. It is used to allay nervous excitability and exhaustion, as a solvent for quinine and preventing quinism, and as an alternative for bromide of potassium; 8 minims will dissolve 5 grains of sulphate of quinine diffused in a little water.

The acid formerly in use in medicine contained only about 8 per cent. of real acid. It was prepared by decomposing a solution of 5,188 grains of bromide of potassium in 4 pints of distilled water with 6,337 grains of tartaric acid, and after cooling to a low temperature decanting the supernatant acid solution for use; it thus contained some bromide of potassium as an impurity.—B.M.J. ii./76,42.

To obviate the headache of cinchonism and the fulness of the head felt when taking iron; for anæmia; also to remove the ill effects of excess of tea or alcohol; and to calm excited heart.—B.M.J. ii./76,42; P.J. 1877,715; Br. ii./76,356.

Letters on therapeutic uses.—B.M.J. i./77,480.

For tinnitus aurium and tickling hacking cough at night, in doses of 10 minims or more, is very useful.—B.M.J. ii./79,316.

Used as a sedative neurotic.—Pr. xx,447.

Used in headache, with flushing in the face and ringing in the ears, also in toothache.—L. i./82,975.

Insomnia relieved by 60 minim doses well diluted.— . xxxiii.296.

In epilepsy, the dose should be full, as much as half an ounce well diluted (this is equal to 36 grains bromide of potassium); 3 ounces daily given to robust patients.—B.M.J. ii./85,587.

ACIDUM HYDROFLUORICUM.

Hydrofluoric Acid.—*Syn.* FLUORIC ACID.

An aqueous solution of hydrofluoric acid gas, obtained by passing the gas produced by the action of sulphuric acid on fluor spar into water. The impure acid thus prepared is redistilled for medicinal use. The pure redistilled acid contains about 30 per cent. of the gas. It emits suffocating fumes, and requires to be kept in gutta percha or leaden bottles.

Acidum Fluoricum Dilutum, T.H.

Dose.—15 to 60 minims.

Contains a half per cent. of the redistilled acid, and "is kept in glass bottles for use." Even in this diluted condition it quickly acts on the glass and becomes inert.

Goitre, 20 cases treated by diluted hydrofluoric acid in doses of 15 to 70 minims—17 recoveries and 3 failures.—L. i./81,448, 497, 537.

Diphtheria, 40 cases (only 3 died) treated by inhalations of hydrofluoric acid gas; produced by the action of sulphuric acid on fluor spar heated in a leaden vessel. The apparatus requires refilling 5 times in 24 hours.—L. ii./82,548.

Inhalations of fluoric acid for Phthisis; in Paris patients have been made to inhale air which has been passed through a mixture of 150 parts of water and 50 parts of acid.—B.M.J. i/86,363; ii./86,572. And similarly inhalation from a 2 per 1,000 solution of ammonium fluoride.—B.M.J. i./88,758.

Fluoride of Ammonium.

Suggested to diminish enlarged spleen in doses of 5 to 20 minims of solution, 4 grains in an ounce, after meals The fluoride of iron in same dose may be preferable possessing hæmatinic properties in addition.—L. i./86 991; Pr. xxviii,413.

Fluoride of Iron. Ferrous Fluoride.

A purplish white insoluble powder. *Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain.—See above.

Fluoride of Quinine, striking success in relieving enlarged spleen and in rickets.—L. ii./84,559.

ACIDUM LACTICUM.

Lactic Acid (*Off.*).

Dose.—5 to 20 minims or more, well diluted.

A colourless, odourless, syrupy, sour liquid, obtained by the lactic fermentation of a solution of sugar; Sp. Gr. 1·21. It is miscible with water, alcohol, and ether, and it coagulates milk and albumen. It is employed topically to destroy morbid growths, in diphtheria, &c., and internally as a stomachic tonic in combination with iron and lime, with excess of the acid, and for diabetes.

Acidum Lacticum Dilutum (*Off.*). Sp.Gr. 1·040.

Lactic Acid	3 ounces.
Distilled Water *q.s.* to ...	1 pint.

Dose.—½ to 2 drachms.

This diluted or *medicinal* Lactic Acid is too weak for making the preparations referred to in continental formulæ, and may have led to the discrepancies in the results obtained from Lactic Acid here, as compared with those recorded on the Continent in the treatment of diphtheria and diabetes.

Calcii Lactas. *Dose.*—1 to 5 grains.

An opaque, white, crystalline powder; unless freshly prepared not readily soluble in water.

Ferri Lactas, Lactate of Iron, Ferrous Lactate.

Dose.—2 to 10 grains.

In greenish-white crystals, soluble in water; when taken internally is easily assimilated by the system.

Nebula Acidi Lactici, T.H.

Lactic Acid	1 drachm
Distilled Water	15 drachms.

Of great use in diphtheria; appears to have the effect dissolving the membranous exudation

Syrup of Lactophosphate of Lime and **Syrup Lactophosphate of Lime and Iron** are French specialities. The adult dose of them is 3 to 6 tablespoonfuls daily. The English manufactured syrups corresponding to them are given in 1 or 2 teaspoonful doses. The following formulæ are in use as substitutes:—

Syrupus Calcii Lactophosphatis.—N.R. xii.58.

Lactate of Calcium	(by weight)	5
Orange-flower Water	„ ..	10
Syrup ...	„ ..	80

Rub together, and add

Phosphoric Acid (S.G. 1 500)	„ ...	5
{ Oil of Lemon mixed with	„ ...	1-30th
{ Rectified Spirit ...	„ ...	1-10th

Shake well to dissolve, then strain or filter.

Dose.—1 to 2 drachms.

Syrupus Calcii et Ferri Lactophosphatum.

Dose.—1 to 2 drachms.

May be made by dissolving a grain of lactate of iron in each fluid drachm of the syrup of lactophosphate o calcium.

Quininæ Lactas.—See p. 320.

Zinci Lactas.—See p. 366.

For croup, as lactic acid dissolves the fibrinous exudations; 15 to 20 minims in half an ounce of water used as spray with great success —M.T.G. i./70,95.

Two cases of diphtheria treated by spray.—B.M.J i./78,644.

Used as a spray inhalation after tracheotomy for croup —M.T.G. ii./76,294.

In diabetes, 2 to 4 drachms in half a pint of wate taken during the day, with exclusively animal diet, recommended by Cantani. Also given in dyspepsia.—Stillé and Maisch.

Two cases of diabetes treated by non-amylaceous die and lactic acid (? diluted lactic acid), half an ounce dail for weeks, no benefit from treatment.—B.M.J. ii./72 211; M.T.G. ii./72,205.

Lactic acid is a soporific in cases of general enfeeblement and debility following disease, best given as a enema, neutralised by bicarbonate of sodium, 5 to 2 grammes of each at bedtime.—M.T G. ii./76,53.

In catarrh of bladder gave favourable results.—P xxvii.212

In phthisis, 10 minims twice a day, to allay cough an quench thirst, was useful.—B.M.J. ii./81,470.

In chronic catarrh of the bladder, lactic acid drink arrest the ammoniacal decomposition of the urine, both inside as well as outside this organ, dissolve the salts which abound in it, and stop the development of micro-[illegible]ic organisms in it.—Pr. xxvii.213.

[illegible]cussion on the local use of lactic acid for tubercular by t[illegible]tis.—B.M.J. ii./85,949.

1·2[illegible]e acid as a paint, or in a paste with kaolin, or as a [illegible]0 per cent. injection, destroys lupus, but causes pro[illegible]onged pain.—Edin. Med. Jour. Jan.1888,677.

ACIDUM MECONICUM.

Meconic Acid (*Off.*).

Dose.—?

An acid obtained from opium; is in nearly colourless micaceous crystals, readily soluble in alcohol, sparingly so in water. The aqueous solution is acid to test and taste, and is coloured red by neutral solution of perchloride of iron; this colour is discharged by *strong* hydrochloric acid. Its solution in water gives no precipitate with liquor iodi (indicating absence of alkaloids, morphine, codeine, &c.). It is official to prepare Liquor Morphinæ Bimeconatis (see p. 254).

Acidum Oleicum (*Off.*).—See Oleata, p. 265.

ACIDUM OSMICUM.

Osmic Acid.—*Syn.* TETROXIDE OF OSMIUM PEROSMIC ACID, HYPEROSMIC ACID.

Is in large yellow crystals, which soften like wax. Its vapour is intolerably pungent, attacks the eyes and nostrils strongly and painfully. Its taste is acrid and burning, but it is not acid to test or taste. Soluble slowly about 1 in 50 of water. It is poisonous and a powerful oxidizing body. Separates iodine from iodide of potassium, and converts alcohol into aldehyde and acetic acid.

Osmiate of Potassium in 1 per cent. solution is injected to relieve sciatica, and has been given internally for epilepsy.—P.J. xvi. 921.

Liquor Acidi Osmici, 1 per cent. (in water).

Dose.—2 to 10 minims hypodermically.

Is much used for hardening animal tissues preparatory to mounting as microscopic objects; fat and medullary matter are blackened by it. By becoming reduced into metallic osmium, it blackens nearly everything it comes in contact with, and requires to be stored in glass bottles free from lead.

Injected hypodermically, has been used for neuralgia, and for strumous glands, sarcoma, and cancer.—L. ii./83,919; Pharm. Post, xvi.537; Pr. xxxi.207.

In epilepsy, cured one case, relieved several; used as osmiate of potassium.—L. ii./84,209.

In sciatica, relief obtained from.—L. i./85,58; ii./87, 335.

In neuralgias of severe type and long standing (note on)—5 cases cured, 2 alleviated, in 1 no success; no ill effects in any.—L. i./85,1096; L. ii./85,216.—Also at intervals of three days 5 minim doses successful, after 4 or 5 injections.—L. i./85,1189.

Injected into goitrous swellings twice a week, gave permanent relief.—Pr. xxxiv.48.

ACIDUM PHOSPHORICUM CONCENTRATUM.

Concentrated Phosphoric Acid (*Off.*).

Dose.—2 to 5 minims.

Hydrated Phosphoric Acid, with 33·7 per cent. of water.

Officially, this may be made either by the nitric acid oxidation of phosphorus in the presence of water, concentrating the solution and adding water to adjust its Sp. Gr. to 1·5, or, by the atmospheric oxidation of phosphorus, and treating the product with water and a little nitric acid. If carefully prepared by the latter process, it can be obtained free from arsenic—a constant impurity in it if prepared by the other process. It contains 47·4 per cent. of phosphoric anhydride. Commercially, it is also prepared, having Sp. Gr. 1·75, and containing 64·3 per cent. of the anhydride. If of this strength, it may be reduced to B.P. strength by addii to each 3 parts by weight 1 part of distilled water.

Acidum Phosphoricum Dilutum (*Off.*). Sp. Gr. 1·08.

Dose.—10 to 30 minims.

Contains 10 per cent. of phosphoric anhydride. It is directed to be prepared by adding to—

Concentrated Phosphoric Acid ...	3 ounces (fluid).
Distilled Water, *q.s.* to	20 ounces.

By weight, to 4½ ounces of the acid add 17 1/10 ounces of distilled water; or the same results may be obtained by diluting 4 parts, by weight, of acid Sp. Gr. 1·75 with 21 of distilled water.

It renders iron preparations compatible with astringent vegetable infusions.

ACIDUM PICRICUM.

Picric Acid.—*Syn.* CARBAZOTIC ACID; TRI-NITROPHENIC ACID.

Dose.—¼ to 2 grains.

Is formed by dropping carbolic into fuming nitric acid, heating the mixture, and purifying by re-crystallizing. It is in yellow, shining, laminar crystals, which stain and give an intense deep yellow colour to water, in which it dissolves about 1 in 90, and 1 in 16 of rectified spirit. It is used for hardening tissues for microscopic examination, and as a urine test for albumen. (See p. 354.) It is intensely bitter. Its salts of ammonium and potassium have been used medicinally, and have been thought to act like quinine; the potassium salt decomposes and explodes if heated or percussed.

Picric Acid and Picrates are now placed under the Explosives Act, 1875, and can only be stored in solution. See p. 378.

Liquor Acidi Picrici, 1 per cent. aqueous solution.

Dose.—½ to 3 drachms.

In ague, albuminuria, and some forms of headache it has been used, but it is apt to colour the skin, conjunctiva, and urine yellow.—B.M.J. ii./84,1109.

Picrate of Ammonium given for ague and malarial fevers. *Dose*, one-eighth to 1½ grains four [illegible] five times a day. L. i./87,366; P.J. 1887, 812.

ACIDUM PYROGALLICUM.

Pyrogallic Acid.—*Syn.* PYROGALLOL.

Dose.—½ to 1½ grains in aqueous solution, or in a pill with syrup,—this must be freshly prepared, and kept from the light.

In very light small white crystals prepared from gallic or tannic acids by carefully heating. It is without odour, tastes insipid, producing a sensation of coolness on the tongue. Soluble in 2½ parts of water, and in 10 parts of melted lard. It has great affinity for oxygen, and possesses antiseptic properties. It darkens the skin and hair, and is used in conjunction with a solution of nitrate of silver for blackening the hair. It is also used in photography.

It is given like gallic acid, but in much smaller doses, to check hæmoptysis, and used in the form of ointment, but must not be too freely applied, for psoriasis, on which it seems to have a specific influence.

Unguentum Acidi Pyrogallici, B.S.H.

Syn.—JARISCH'S OINTMENT.

Pyrogallic Acid	60 grains.
Lard	1 ounce.

Mix thoroughly. The acid will be in solution if the lard be melted. Used in cases of psoriasis.

Plaster Mulls are spread containing 42 per cent. of **Pyrogallic Acid.**

As an internal astringent for hæmoptysis in doses of a grain every half hour until it ceases, also prescribed with ergot for the same purpose, does not cause vomiting nor derange the stomach. — Dub. Jour. Med. Sci. 1878,470 ; Pr. xxii.124.

In psoriasis 10 per cent. ointment constantly applied is painful, but efficacious; the tubercle is destroyed, but the healthy skin is unaffected.—Pr. xxiii. 207,373.

Therapeutic uses and toxic effects. A patient suffering from universal psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. — M.R. 1880,49 ; Pr. xxv. 135.—B.M.J. i./81,1007; L. ii./81,891.

Proved useful in Hebra's wards in the treatment of psoriasis and other cutaneous affections. 10 per cent.

ointment brushed in twice a day and parts covered with flannel.—Pr. xxv.378.

Cases of old standing psoriasis cured by use of 10 and 5 per cent. ointment.—L.i./81,576; Br.ii./79,lix.

Serpiginous sores become healthy when dusted with 1 to 4 of starch.—Pr. xxxiii.51.

In psoriasis, a 5 per cent. ointment is useful to limited surfaces, but not to inveterate patches.—L. ii./85,577.

Unna suggests the internal use of diluted nitro-hydrochloric acid to obviate the toxic effects of applications of pyrogallic acid.—Edin. Med. Jour., Oct. 1886, 377.

ACIDUM SALICYLICUM.

Salicylic Acid (*Off.*).

Dose.—5 to 30 grains, or more.

In light acicular crystals, odourless, the dust of it is irritating to the nostrils, taste sweetish, slightly soluble in cold water (1 in 760), soluble 1 in 4 of rectified spirit, 1 in 120 of olive oil, 1 in 100 of castor oil, and 1 in 200 of glycerine; soluble also in melted fats and vaseline; 20 grains of salicylic acid are rendered soluble in an ounce of water by the addition of 25 grains of borax; solutions of acetate of ammonium and acetate of potassium are recommended for use as solvents, but they only act by forming salicylates of the bases and setting free acetic acid, the odour of which becomes distinctly perceptible; citrate of potassium and phosphate of sodium act as solvents in a similar manner. An aqueous solution of the acid gives a deep violet colour with persalts of iron.

Salicylic acid may be prepared from salicin, from oils of winter-green or tea berry (*Gaultheria procumbens*), sweet birch (*Betula lenta*), *Andromeda Leschnaultii* (an Indian shrub), and other sources, but commercially it is largely prepared by heating carbolic acid with caustic soda in a suitable vessel and passing a stream of carbonic acid through it. Salicylate of sodium is formed, from which the salicylic acid is set free by hydrochloric acid. It requires purification by redissolving, dialysing, and crystallizing. The larger crystals obtained by dialysis, and resembling sulphate of quinine in appearance, are purer than the smaller crystals or the amorphous acid, which is often of a pink tint.

Commercially the acid prepared from oil of wintergreen, the *natural* salicylic acid of Mr. J. Williams, is the purest. Oil of winter-green is an impure salicylate of methyl. When treated with caustic potash solution and the volatile matters distilled off, an impure salicylate of potassium remains; this is decomposed by hydrochloric acid, and the salicylic acid obtained purified by dissolving and crystallizing finally from weak spirit. It is in crystals resembling those of strychnine, and larger than those prepared from carbolic acid. Officially either may be used. If pure, recent researches prove them identical.

Salicylic acid prevents fermentative and putrefactive processes and is generally an antiseptic. It is largely used for surgical dressings, especially in cancerous affections. It has the advantage over carbolic acid that it has no smell and causes less local irritation, and the disadvantage that it is not volatile, and therefore does not affect the surrounding atmosphere sufficiently. It has been given for various febrile conditions, but particularly for acute rheumatism; for the latter disease salicin is much preferred.

Internally, its effects closely resemble those of quinine, even to the production of ringing in the ears and transient deafness. Large doses alone act as a direct poison on the heart and respiration. It is only partly destroyed in its passage through the organism, and reappears in the urine as late as fifty hours after it has been taken, partly as such and partly as salicyluric acid. Its curative properties are hence due (1) to this resistance to decomposition; (2) to its harmlessness even in gramme doses; and probably (3) to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases.—Binz.

It has proved useful in the treatment of Menière's disease in small doses.—B.M.J. ii./77,477.

Capsules of Oil of Gaultheria.—10 minims in each. *Dose.*—1 three times a day or oftener.

The oil has similar properties to salicylic acid. 10 to 20 minim doses every 3 or 4 hours useful in rheumatism and sciatica.—Pr. xl. 466.

Death from poisoning by 1 ounce of this oil taken to procure abortion.—Pr. xl. 371.

Salicylic acid may be made into pills with glycerine of tragacanth, but the dose required being large, and being so insoluble in water, it is not often given in the pure state; it is generally given as the salt, salicylate of sodium.

Granular Effervescent Salicylic Acid contains 5 grains in 60 grains. *Dose.*—1 drachm or more.

Pulvis Salicylicus cum Talco, P.G.

Salicylic Acid, 3; Wheaten Starch, 10; Talc, 87.

Mix to a fine powder. Is used to correct the fetid or excessive perspiration of the feet.

Salicylated Camphor.—See p. 105.

Salicylic Collodion.—See p. 156.

Salicylic Cream.

Salicylic Acid, 2 drachms; Carbolic Acid, 1 drachm; Glycerine, 10 drachms.

Rub the salicylic acid to a powder, add the glycerine and carbolic acid, and mix.

Used as pigment when the skin is irritated by the discharge from wounds, &c., under antiseptic dressings.

Salicylic Plaster Mulls.

Contain respectively 38 and 50 per cent. of acid; used successfully to remove thickened epidermis.—L.ii./83,951; B.M.J. ii./83,1071; B.M.J.i./84 602. Others are combined with about 50 per cent. of **Creasote,** or **Extract of Cannabis Indica,** 15 per cent.—L. ii./86, 574; B.M.J. ii./87,447,459,472.

Salicylic Silk (McGill).

Silk waste, teased and impregnated with 10 per cent. of salicylic acid and a little glycerine. In 1lb. boxes.

Used as a surgical dressing.—L. i./81,9; L. ii./81, 623,671.

Salicylic Suet.

Salicylic acid 1, dissolved in melted mutton suet 49. In German army, used for foot sores, sores from riding, &c.

Salicylic Wool.

Cotton wool impregnated with 4 per cent. and 10 per cent. of salicylic acid, and the same quantity of glycerine to make the acid adhere to the wool.

Salicifrice.—A special preparation.

An antiseptic tooth-paste, having a saponaceous basis and containing salicylic acid. In use it is very refreshing to the mouth and palate.

Unguentum Acidi Salicylici (*Off.*).

Soft Paraffin...	18
Hard Paraffin	9

Melt and add—

Salicylic Acid	1

Stir until cold. Some prefer it with the acid not dissolved.

Iodo-Salicylic and Di-Iodo-Salicylic Acids.—See p. 227.

Bismuthi Salicylas.—See p. 92.

Ferri Salicylas. *Dose.*—3 to 10 grains, in pills.

In commerce is found as a purplish brown powder, slightly soluble in water; given as an anti-arthritic tonic and for tonsillitis.

Found useful, on account of its antiseptic and astringent properties and its slight solubility as an application to foul wounds with a tendency to bleeding.—Edin. Med. Jour. 1877,707.

Diarrhœa after weaning, with offensive motions, following formula recommended:—Sulphate of iron and salicylate of sodium, of each, 20 grains; glycerine, 3 drachms; water to 3 ounces. *Dose*, 1 drachm every hour.—B.M.J. ii./86,107.

Quininæ Salicylas.—See p. 320.

Sodii Salicylas (*Off.*).

Dose.—10 to 30 grains in water—the taste may be disguised by the addition of a drachm of liquid extract of liquorice, or syrup of ginger.

In odourless, white, crystalline scales, or, if prepared from the natural acid, in definite shining silky tabular crystals, soluble in its own weight of water, soluble also in rectified spirit. It possesses an unpleasant sweetish taste, but therapeutically it is more pleasant to take and more rapidly absorbed than the free acid. As it is more difficult to judge of the quality of salicylate of sodium, than of the acid, the following solution containing 10 grains of the salt in one drachm is found convenient for dispensing (Squibb):—

Solutio Sodii Salicylatis (1 in 6).

Salicylic acid, well crystallized	437 grains.
Bicarbonate of Sodium ...	270 ,,
Distilled Water	4 ounces.

Mix, and when the effervescence ceases filter and add distilled water over the filter *q.s.* to make the filtrate measure six ounces.

Dose.—1 to 3 drachms = 10 to 30 grains.

Granular Effervescent Salicylate of Sodium.

6 grains in a drachm. *Dose.*—1 drachm or more.

Salicylate of Sodium has a stronger action on certain forms of bacteria than carbolic acid, quinine, boric acid, and alcohol, and one which is scarcely a third less powerful than that of free salicylic acid (Dragendorff and Bucholtz in Binz). It is not compatible with free ammonia, carbonate of ammonium, or aromatic spirit of ammonia; if any of these be added to its aqueous solution, the mixture in a short time turns brown; it will do this irrespective of the source of the salicylic acid, whether natural or artificial.

Salicinum, **Salicin** (*Off.*).

Dose.—5 to 30 grains in aqueous solution, taste may be covered with liquid extract of liquorice, or small dose in pill with glycerine of tragacanth.

A neutral principle in white tabular scaly or acicular crystals without odour, taste moderately bitter. Soluble 1 in 20 parts of cold water, 1 in 50 of spirit, but not soluble in ether. Obtained commercially from various species of willow bark, contained also in poplar bark and in flower buds of meadow sweet.

Salicin is used in small doses, often combined with valerianates and compound rhubarb pill, as a mild tonic. In large doses it has a specific action over acute rheumatism. It is not so depressing in its action as salicylic acid. Under the influence of a ferment, *e.g.* saliva, it is decomposed with absorption of water into saligenin and sugar, and saligenin is afterwards readily oxidised into salicylic acid.—Binz. It is not adapted for use as an external antiseptic. Is used for ague.

Salol. *Dose.*—10 to 30 grains, in cachets or suspended in milk. (Is patented.)

Phenyl Ether of Salicylic Acid.—It is in small white crystals, like bromide of ammonium, with a faint yellow tint; has a slight aromatic wintergreen odour; is almost tasteless and insoluble in water, but soluble in alcohol, ether, fixed oils, and a trace in glycerine. It possesses antiseptic and antipyretic properties, and internally can be used advantageously in place of salicylate of sodium, where this is badly tolerated. In the system it splits up into its component parts, both being found in the urine, which becomes very dark, almost black, as after the ingestion of carbolic acid, of which Salol contains 38 per cent.—P.J. 1886,1005.

Passes unaltered through stomach, and thus does not disorder the digestion.—P.J.1887,527.

It is split up into its phenyl and salicyl elements by the pancreatic juice in the duodenum.—L.ii./86,81.

Useful in sciatica; 8 grains in the evening and 16 grains at bedtime induced sleep.—L.ii./87,880.

Is a good antiseptic, unirritating; heals ulcers. Use a 3 per cent. solution as a gargle.—B.M.J. ii./86,433.

Its chief value is in acute rheumatism.—L. i./88,867. Is decidedly efficacious, but owes its activity to the salicylic acid it contains.—L. i./88,1072.

Rheumatic polyarthritis, relieved by half a drachm three times a day.—B.M.J.i./87, 793; L.i./87,644.

Summer diarrhœa, successful in.—Pr. xl.465.

Notes on its therapeutic value.—B.M.J.ii./87,1397.

Earache and neuralgia of the eyes relieved by ten grain doses.—Ed.M.J.1888,953.

Betol. See Naphthol, p. 257.

References to Salicylic Acid as an Antiseptic.

Spoken of as a much more powerful antiferment than carbolic acid. Forms a valuable antiseptic ointment. An application of salicylic acid and oil removes the fœtor, and forms a comforting application to ulcerated cancer of the breast.—L. ii./74,785; L. ii./75,431, 562,871.

Use in surgical dressings.—B.M.J. ii./75,510,769.

Editorial note on antiseptic properties. It is peculiarly adapted as a toilet requisite for dentifrices, and as a preventive of the disagreeable odour caused by fetid perspiration, without producing any injurious effects.—B.M.J. i. /75,252.

As an ointment for eczema.—L. ii./75,870. In ringworm.—L. i./80,482.

Used as snuff in hay-fever, acted like magic.—B.M.J. ii./78,101.

Salicylic acid, strychnine, morphine, narcotine, and brucine are all without any effect upon bacteria, even when quite large quantities are put into the solution containing germs, while phenol, spongy iron, alcohol, and permanganate of potassium destroyed bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258 ; P.J. 1881, 765.

References to Salicylic Acid, the Salicylates, and Salicin given internally.

When given boldly in one large dose of one drachm, or in several smaller doses of 20 to 30 grains, to a healthy person, these substances produce results similar to those of large doses of quinine, but small doses are soon tolerated and the physiological effects are not obtained—they cause headache, suffusion of the eyes, flushed face, slight deafness, muscular trembling and weakness, hurried respiration, weak and quickened pulse and render the perspiration and urine less acid (?). It is considered that Salicin is converted into Salicylic Acid in the body, and as such produces the effects. In health, the effect on temperature is but little marked and at times variable.—R.

In disease, they lower the temperature, and have a decided action on pyrexia. They have been employed in most febrile diseases, but it is in acute rheumatism that their chief power is felt. For this disease Salicin is preferred. Large doses do great good. 30 grains every 2 hours, or hourly if required, soon produce a marked effect. These remedies should be continued in smaller doses for ten days after the temperature has become normal.—R.

Salicin, specially recommended for acute rheumatism in doses of 10 to 30 grains every 2, 3, or 4 hours.—L. i./76,342,383.

Also the same, and advised to continue its use for a fortnight after the decline of the disease; it is a pleasant bitter, and may be conveniently prescribed with syrup of orange-peel. Hardly ever produces the unpleasant effects which are seen from taking salicylic acid.—B.M.J. i./76,627.

General recommendations for its use in rheumatic fever.—L. ii./76,601,677 ; L. i./79,875 ; L. ii./79,79.

For a comparison of the salicylic acid treatment of acute rheumatism with that by alkalies.—L. i./80,201, 244,281.

Special advantages of salicin over salicylic acid for rheumatism.—B.M.J. i./81,229.

In rheumatism 40 grains of salicylate of sodium, or [illegible] grains of salicylic acid every 2 or 3 hours. Note—

5 grains of sodium salt are equal to 4 grains of acid.—L. ii./79,905.

Salicylic acid, whilst of doubtful use in chronic rheumatism, is a rapid and radical remedy for the acute form; given in doses of 7½ to 15 grains.—B.M.J. i./76,569.

Whether the acid or its salts be given, they act as a powerful antipyretic. A dose of 5 grammes produces a rapid fall of temperature and perspiration; in acute inflammations the local mischief is not affected by it, but in acute rheumatism the articular pains are dispersed, and a rapid cure often effected.—Pr. xvi.208.

Whilst of most use in acute rheumatism, it has resemblances in action to quinine, and combats malarial poisoning.—Pr. xi.,449.

For cases of rheumatism successfully treated by the acid.—L. i./76,530,737,840; L. ii./76,11,254,681,771.

For a detailed statement of its effects on healthy subject, especially as regards temperature.—Pr. xxiii.184.

Typhoid cases treated with salicylate of sodium, and recommended for use as an antipyretic.—L. i./81,409,455.

Salicylate of sodium useful in typhoid.—L. ii./79,905.

Remarks on the danger attending the use of salicylic acid in acute rheumatism.—L. i./80,327.

Delirium in cases of acute rheumatism, treated by salicylate of sodium.—B.M.J. i./81,159,337.

Salicylates of sodium and ammonium, useful in treating acute zymotic diseases, and mixed with honey or made into lozenges for diphtheritic attacks in the throat.—B.M.J. i./79,67.

Acute rheumatism treated by salicylates.—L. ii./81, 1030,1089,1119,1120; L. i./82,9,54,57,134,135,138; B.M.J. i./82,46,459.

Statistics of above treatment in 39 hospitals; while salicylates are said frequently to produce bad effects, none such are attributed to salicin.—L. i./82,57.

Thesis on the salicylate treatment of rheumatism; duration of the acute stage reduced to 3 or 4 days. Convalescence is more rapid, and tendency to heart complication probably less than from any other treatment.—Pr. xxviii.321,401.

Case of sudden death after three doses of fifteen grains of salicylate.—L. ii./86,1174.

In acute tonsillitis, 10 grains every three hours relieve the distressing symptoms.—B.M.J. i./87,1253 ; Pr. xl. 260, 351.

Salicylate of sodium removes the fœtor of urine in paraplegia.—L. ii./86,853.

Discussion on the dosage of salicylates.—B.M.J. ii./87. 1389.

Maclagan on the failure of the Salicyl compounds in acute rheumatism due to insufficient doses.—L. ii./87,345.

Special report on the failures in the salicylic treatment of rheumatism.—B.M.J. i./88,395.

Large doses of the salicylates relieve neuralgia.—Pr. xxxix. 49.

Note on the effects of salicylic acid upon headaches associated with increased excretion of uric acid.—L. i./88, 70 ; B.M.J. i./88,905.

Acidum Scleroticum.—See Ergota, p. 175.

ACIDUM SULPHUROSUM.

Sulphurous Acid (*Off.*).

Dose.—½ to 2 drachms.

A colourless liquid, having a pungent sulphurous odour, and containing 5 per cent. of sulphurous anhydride. Sp. Gr. 1·027. It is liable to oxidise into sulphuric acid if long kept, and when used for throat affections the presence of more than traces of sulphuric acid is objectionable. It may be freed from this by addition of sulphite of barium as long as a precipitate is thrown down and then decanted from the sediment (sulphate of barium). An alcoholic solution can be made much stronger and is more stable than an aqueous one.

Sulphurous acid is used as a deoxidising antiseptic and disinfectant. It arrests fermentation by destroying the vitality of the organisms producing it. It is often used in the gaseous condition, for disinfecting rooms in which patients suffering from infectious fevers have been nursed. It may be produced by igniting sulphur (1 pound to each 1,000 cubic feet), placed in a strong earthen vessel, which for safety should be supported over a bucket of water, on a pair of tongs laid across it. After the chimney and all crevices have been closed, and paper pasted over apertures in the windows, &c., the sulphur may be ignited by being moistened with methylated spirit and lighted with a match; the sulphur catches readily. The door should then be shut, pasted up with paper and left for six hours. The air should be rendered unfit for respiration, metals exposed in the room should be greased, and coloured materials as much as possible removed, as the gas possesses bleaching properties on some substances.

Sulphurous acid, the solution, is applied externally as a lotion—one part to two or more of water and sometimes a little glycerine added—for parasitic affections such as chloasma, ringworm, pruritus, and thrush, with very good results. Undiluted it is sprayed into the throat for tonsillitis and asthma, or used as an inhalation, a teaspoonful to a pint of cold water. Internally, for gastric fermentation accompanied by sarcinæ it is given with success in its combinations, as

Sodii Sulphis, Sulphite of Sodium (*Off.*).

Dose.—5 to 20 grains; or as

Hyposulphite of Sodium. *Syn.*—THIOSULPHATE OF SODIUM. *Dose.*—10 to 60 grains.

This is also used as a lotion, 1 in 10 for chloasma, ringworm, &c. It may be made to evolve sulphurous acid gas as in the following lotion:—

Hyposulphite of Sodium, 3 ounces; Diluted Sulphuric Acid, ½ ounce; Water, 16 ounces.

References to Sulphurous Acid.

As a paint for the throat and as a spray in aphthæ and diphtheria and as a fumigation, and its use in the cattle plague.—M.T.G. i./67,492.

Used successfully as a spray for sore-throat, chronic bronchitis, &c.—M.T.G. i./67,549.

In gonorrhœa 1 part to 15 of water injected 3 times a day was effectual.—L. i./81,205.

Sulphurous acid has little effect on bacteria; after 15 days meat solution containing them, and impregnated with the gas, was bleached, but they were still alive in the strongly acid solution.—Jour. Chem. Soc. xxxix.252; P.J. 1881,765.

A solution 1 in 2 of water, as an antiseptic, is useful in removing fœtor of cancerous sores.—B.M.J., i./83,1281.

In diphtheria, full and frequent doses of sulphurous acid every 1 or two hours.—B.M.J., ii./87, 773.

Sulphocarbol.—See Aseptol, p. 38.

ACONITINA (*Off.*).

Aconitine.

Dose.—$\frac{1}{240}$ to $\frac{1}{60}$ grain may be carefully increased up to $\frac{1}{24}$ grain.

An alkaloid obtained from *Aconitum Napellus*, and probably other species of aconite. In white, generally amorphous, irregular lumps, may be with difficulty obtained in acicular crystals, freely soluble in dilute acids and rectified spirit, soluble also in ether and according to B.P. 1 in 150 of cold water, but this does not apply to the Aconitine of British makers, which requires upwards of 4000 parts of water to form a solution at the ordinary temperature. The English is preferred, next the French, and then the German. English Aconitine (Morson's), according to Flückiger, is supposed to be identical with the Pseud-Aconitine obtained from Bish or Nepaul aconite root, the produce principally of *Aconitum ferox*. Another principle is contained in both *Aconitum Napellus* and *Aconitum ferox*, named by Hübschmann Napellin, but from the two sources the Napellin is not identical.—L. i./82,325.

The crystallized Aconitine obtained by Duquesnel's process from *Aconitum Napellus* is said to be a very potent preparation.

Aconitine is a violent poison, and its action is uncertain, unless that of the same maker be always employed; and, although much has been written of late on it from a chemical point of view, there are still doubts as to which is the more active physiologically, Aconitine or Pseud-Aconitine obtained from *A. ferox*. Aconitine melts at 183° to 184° C.; Pseud-Aconitine at 104° to 105° C.—P.J. 1880,2. When rubbed on the skin, Aconitine causes a tingling sensation, followed by prolonged numbness. It may be administered in the form of pill, carefully rubbed down with a little sugar of milk, and made into a mass with glycerine of tragacanth. The best alkaloid is a somewhat costly preparation.

Aconitum Ferox, A. Heterophyllum and **A. Japonicum.**—See p. 368.

Preparations.

Injectio Aconitinæ Hypodermica.

Aconitine (English)	1 grain.
Diluted Sulphuric Acid ...	*q.s.*
Distilled Water to	½ ounce.

Dilute one drop of the acid with about one drachm of water, and carefully add drop by drop to the aconitine, avoiding excess, till it is dissolved, make up the measure to half an ounce with water.

Dose.—1 to 4 minims.

Oleatum Aconitinæ.

Aconitine	2 grains.
Oleic Acid	100 minims.

Dissolve; may be perfumed—is readily absorbed when painted on for neuralgic affections.

Unguentum Aconitinæ (*Off.*).

Aconitine	8 grains.
Rectified Spirit	½ drachm.

Dissolve, and add

Lard...	1 ounce.

Mix thoroughly. Should be freshly prepared. A piece the size of a bean is gently rubbed in for facial neuralgia, care being taken not to apply where the skin is broken, or to touch the mucous membranes.

Other Preparations of Aconite.

Chloroformum Aconiti (Squire). 1 = 1 of root.

Prepared as Chloroformum Belladonnæ (see p. 87). Useful application for neuralgia, mixes with oils and liniments.

Emplastrum Aconiti in rubber combination, sheets 7 in. by 5 in., rolls 7 in. by 36 in.

Emplastrum Aconiti et Belladonnæ is also prepared in sheets and rolls as above.

Extractum Aconiti (*Off.*) (from fresh leaves and flowering tops).

Dose.—¼ to 1 grain.

Extractum Aconiti Radicis Alcoholicum, Alcoholic Extract of Aconite Root (Fleming).

Dose.—$\frac{1}{10}$ to ⅛ grain.

Must be carefully distinguished from the preceding.

Linimentum Aconiti (*Off.*).

1½ = 1 of root; useful in neuralgia.

Pastillus Aconiti.—See p. 200.

Pilula Aconiti. Root, in powder, ⅛ grain in each.

Dose.—1 hourly = 1 minim of tincture.

Tinctura Aconiti (*Off.*).

1 of dried root in 8 of rectified spirit.

Dose.—As a febrifuge 1 minim every 10 minutes or quarter of an hour, for an hour, then repeat dose every hour till skin acts well and temperature is reduced.—L. i./69,44. In chronic cases 5 to 10 minims less frequently.

Fleming's and Turnbull's Tinctures of Aconite are about five times the strength of the above. They are sometimes ordered for external use, and were given in doses of 1 to 5 minims.

Aconitine paralyzes all nitrogenous tissues and affects all the tissues of the heart, first its ganglia, next its nerves, and lastly its muscular substance.—R. It acts therapeutically as a depressent, calmative, and diaphoretic. Externally the ointment of aconitine, or aconite liniment painted on either in a pure condition or mixed with belladonna or chloroform liniment, immediately relieves neuralgia, sciatica, and many forms of rheumatism. When effectual they cause a sensation of tingling, and subsequent numbness of the parts to which they are applied. Internally, tincture of aconite is given to control inflammation and to subdue the accompanying fever, with great success, especially if given in the early stages of the disease, in acute sore-throat, tonsillitis, catarrh, scarlatina, gonorrhœa, erysipelas, and other febrile affections, in doses of one minim every hour, it reduces pulse and temperature and causes free diaphoresis.

Use of aconite in all forms of neuralgia, diseases of the heart, rheumatism, and erysipelas.—Fleming on Aconite.

Antagonism of aconitine to digitalin. — B.M.J. Reports 1877,89.

Aconitine of the greatest use in neuralgia of the fifth pair of nerves; dose $\frac{1}{140}$ grain up to $\frac{1}{12}$ grain (? not English.)—Pr. xxii.,457; Br. ii./79,xxiii.

Aconitine paralyses peripheral sensory nerves, and augments power of motor nerves.—Pr. xx.185.

Physiological action.—Pr. xx.100; Pr. xxii.108.

Hypodermic injection of $\frac{1}{200}$ to $\frac{1}{120}$ grain, useful in trigeminal neuralgia.—Pr. xxiv.136.

Also, $\frac{1}{64}$ grain injected, and dose carefully increased, produces rapid cure in neuralgia.—Pr. xxiv.205.

Fleming's tincture of aconite, one minim every hour in relapsing fever, reduces temperature and pulse, cleans tongue, induces sleep, increases quantity of urine, and promotes perspiration. Superior to Warburg's tincture —Pr. xxvi.187.

Crystallized aconitine recommended for internal use The German amorphous aconitine is less powerful tha the French, of which $\frac{1}{240}$ grain doses 4 times a day caused alarming effects.—L. ii./80,778.

Note on the variations of strength of different samples of aconitine. Pseud-aconitine acts more on the respiratory system, aconitine more on the heart.—B.M.J.ii./81 523; Trans. Med. Congress, 1881,i.472.

Letter on the varieties of commercial aconitine, noting the extreme variation of their therapeutic power and poisonous properties, cases of poisoning produced by the substitution of one maker's aconitine for another's, referred to,—B.M.J. i./82,555; L. ii./87,1068.

Investigation of Dutch caseof poisoning by aconitine —P.J. 1882,683.

Note on therapeutics of Aconitum ferox.—B.M.J ii./84,1275.

Death following 2 drachm dose of linimentum aconit in a drunken adult.—B.M.J. ii/86,680.

Actæa.—See Cimicifuga, p. 121.

ÆTHER.

Ether (*Off.*).—*Syn.* ÆTHER SULPHURICUS; SULPHURIC ETHER; OXIDE OF ETHYL.

Dose.—20 to 60 minims (best given as spirit of ether which mixes with water).

Chemically ether is alcohol less a molecule of water Its properties and general medical uses are so well known as to need little description here. Besides its ordinar medicinal uses, ether is now largely employed for producing general anæsthesia, as well as being applied as a loca anæsthetic in the form of spray to freeze the part. I causing general anæsthesia ether produces less depression on the heart than either dichloride of ethidene o chloroform, but its use is unpleasant both to the patien and to the operators. Its suffocating action on th patient, if suffering from any lung or bronchial affection is very irritating, and has proved fatal. Care must b taken not to employ it near a light, as its vapour is ver inflammable, and it has to be used freely. *Vide* lette and report on anæsthetics, in which ether is preferred to chloroform.—B.M.J. ii./75,726; B.M.J. ii./80,760, 776,970; B.M.J. i./82,247.

Anæsthesia may be produced by vapour or spray of ether introduced into the rectum.—Pr. xxxiii.58; M.R./84,199; B.M.J. ii./85,659.

Rectal etherisation used successfully for cholera, hoping to destroy the vitality of bacilli, 15 cases—2 convalescent within 24 hours, 1 died, 12 progressed favourably.—L. ii./85,588.

Revelations during anæsthesia from ether.—L. ii./81,9. Action on the frog's heart, induces very little paralysing effect.—Pr. xxvii.13.

Hypodermically, 20 minims acted as a successful restorative in typhoid fever.—L. ii./83,313. For collapse, hypodermic dose may be a drachm.—L. ii./83,395.

30 minims hypod. for collapse from post partum hæmorrhage, rallied in a few minutes.—L. ii./83,348,388.

Inhalation of ether affects the constrictor muscles of the larynx.—B.M.J. ii./86,405.

Anæsthesia from ether, apart from operation, produces chill, depression, and reduction of temperature.—B.M.J. i./88,1177.

Commercial Varieties in General Use.

(1) *From pure Rectified Spirit.*

Æther (*Off.*) Sp. Gr. 0.735.

Ordinary medicinal ether contains a little spirit and water. It is sometimes inhaled for producing general anæsthesia, but is not so suitable for this purpose as

Æther Purus (*Off.*). Sp. Gr. 0·720; **Absolute Ether.**

Should produce no blue colour when shaken with starch paste and one-fourth its bulk of solution of iodide of potassium. Test defective, few samples stand it unless the iodide solution be weaker than B.P.—P.J. 1886,661; 1887,841.

This is best adapted for producing general anæsthesia. It is a pure and definite substance. It may also be used for local anæsthesia.

(2) *From Methylated Spirit.*

Absolute Ether, Methylated, Sp. Gr. 0·717 to 0·719.

Contains a little methylic ether, and is specially adapted for producing local anæsthesia, as it boil under 80° F. It is not adapted for producing genera anæsthesia, being too volatile.

Rectified Ether, from Methylated Spirit, Sp. Gr 0·720.

Methylated ether, well washed to free it from methyli ether, purified and re-distilled. It is well adapted fo producing general anæsthesia. Is considered safer than that from pure spirit.—L. i./82,1072.

Methylated Ether, Sp. Gr. 0·730.

Is adapted for common purposes, ice machines, &c. Not fit for medical use. For photography a purer preparation, Sp. Gr. 0·725, is used.

Preparations.

Æther Phosphoratus.—See p. 286.

Collodium.—See p. 155.

As Ether is a direct stimulant to the pancreas, increases its secretion, and assists in the emulsification of fats, it is valuable in the treatment of consumptives, and is used to form:—

Oleum Morrhuæ cum Æthere.

Cod Liver Oil	2 drachms.
Pure Ether	10 minims.

For a dose; ether may be increased to 15 or 20 minims.—B.M.J. i./68,148,543,570.

Its usefulness in phthisis; can be easily digested.—L. i./70,380; L. i./79,859.

American report on its advantages.—L. ii./78,413; M.T.G. ii./79,536.

Compound Anæsthetic Ether for local anæsthesia.

Hydride of Amyl 1 part, Rectified Ether 4 parts (*sic*). —M.T.G. ii./71,374. A modification of this was subsequently published as,—

Hydramyl-Ether for general as well as local anæsthesia.

Pure Hydramyl (Hydride of Amyl) and Absolute Ether, of each equal portions (*sic*).—M.T.G. ii./71,492.

Perles of Ether, 3 minims in each. *Dose.*—1 to 4.

Spiritus Ætheris (*Off.*).

Ether, Sp. Gr. 0·735... ...	1 ounce.
Rectified Spirit	2 ounces.

Dose.—30 to 90 minims.

The older formula is often ordered, viz.:—

Spiritus Ætheris Compositus (*Off.*).

Ether	8 ounces.
Rectified Spirit	16 ,,
Oil of Wine (freshly prepared)*	3 drachms.

Dose.—30 to 90 minims.

Syn.—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

Spiritus Ætheris Nitrosi (*Off.*) is a solution of ethereal compounds containing nitrite of ethyl and paraldehyde. *Dose.*—½ to 2 drachms.

Æthyl Nitris. Nitrite of Ethyl. (True.)

Dissolve nitrite of sodium, 34 grammes, in water to 120 c.c.; cool below 0° C., and surround vessel with a mixture of ice and salt. Add 13·5 c.c. sulphuric acid to a mixture of 32 c.c. of each, rectified spirit and water, dilute this further to 120 c.c., cool it to 0° C., and pour it very slowly through a thistle-funnel, stirring constantly, to the bottom of the nitrite solution, when a pale yellow layer of ethyl nitrite will rise to the top. This, if decanted and agitated with water in a separator, and afterwards with anhydrous carbonate of potassium (in contact with which it should also be preserved), yields pure nitrite of ethyl. It boils at 17·5° C. (63·5° F.). Suitable for inhalation only. A 2 per cent. solution of this in absolute alcohol, with 5 per cent. of glycerine, forms **Liquor Æthyl Nitritis.** *Dose.*—10 to 60 minims. This should not be diluted with water until administered.—P.J. 1888,861.

ÆTHER ACETICUS.

Acetic Ether (*Off.*).—*Syn.* ACETATE OF ETHYL.

Dose.—20 to 60 minims.

Is prepared by mixing slowly and keeping cool sul-

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[*] This is directed to be prepared by gradually mixing 36 ounces of sulphuric acid with 40 ounces of rectified spirit, letting the mixture stand for 24 hours, and then distilling it until the fluid in the retort begins to blacken. The distillate is then shaken with lime-water to neutralise any acid; the supernatant liquid is lastly separated, and after exposure to the air for about 12 hours it is ready for use, as ETHEREAL OIL—Oleum Æthereum, or OIL OF WINE, for making the above preparation.

adapted for producing local anæsthesia, as it boils under 80°. F. It is not adapted for producing general anæsthesia, being too volatile.

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Syn.—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

Spiritus Ætheris Nitrosi (*Off.*) is a solution of ethereal compounds containing nitrite of ethyl and paraldehyde. *Dose.*—½ to 2 drachms.

Æthyl Nitris. Nitrite of Ethyl. (True.)

Dissolve nitrite of sodium, 34 grammes, in water to 120 c.c.; cool below 0° C., and surround vessel with a mixture of ice and salt. Add 13·5 c.c. sulphuric acid to a mixture of 32 c.c. of each, rectified spirit and water, dilute this further to 120 c.c., cool it to 0° C., and pour it very slowly through a thistle-funnel, stirring constantly, to the bottom of the nitrite solution, when a pale yellow layer of ethyl nitrite will rise to the top. This, if decanted and agitated with water in a separator, and afterwards with anhydrous carbonate of potassium (in contact with which it should also be preserved), yields pure nitrite of ethyl. It boils at 17·5° C. (63·5° F.). Suitable for inhalation only. A 2 per cent. solution of this in absolute alcohol, with 5 per cent. of glycerine, forms **Liquor Æthyl Nitritis**. *Dose.*—10 to 60 minims. This should not be diluted with water until administered.—P.J. 1888,861.

ÆTHER ACETICUS.

Acetic Ether (*Off.*).—*Syn.* ACETATE OF ETHYL.

Dose.—20 to 60 minims.

Is prepared by mixing slowly and keeping cool sulphuric acid 130 with rectified spirit 129, adding acetate of sodium 140, mixing well and distilling 180. This distillate is digested with carbonate of potassium for three days. The ethereal fluid is separated and again distilled, all but about 16 parts. This last distillate—Acetic Ether—is a colourless liquid with an agreeable ethereal odour. Sp. Gr. about 0·900; boiling point about 160° F.; soluble 1 in 10 of water and in all proportions of rectified spirit and of ether. It is used as a menstruum in preparing Liquor Epispasticus (see p. 108).

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* This is directed to be prepared by gradually mixing 36 ounces of sulphuric acid with 40 ounces of rectified spirit, letting the mixture stand for 24 hours, and then distilling it until the fluid in the retort begins to blacken. The distillate is then shaken with lime-water to neutralise any acid; the supernatant liquid is lastly separated, and after exposure to the air for about 12 hours it is ready for use, as ETHEREAL OIL—Oleum Æthereum, or OIL OF WINE, for making the above preparation.

ÆTHYL BROMIDUM.

Bromide of Ethyl.—*Syn.* HYDROBROMIC ETHER.

Is prepared by distilling a mixture of alcohol, bromine, and phosphorus. It is a colourless, very volatile liquid with a strong peculiar odour and a sweetish warm taste. It has Sp. Gr. 1·419, boils at 105° F. On keeping, it is liable to liberate free bromine.

It has been used, particularly in America, as an anæsthetic, as has also a mixture of Bromide of Ethyl 1 part, Chloroform 3 parts, and Alcohol 4 parts. Also inhaled to relieve migraine.

Bromide of Ethyl Capsules.

Encased in cotton wool and silk, contain 5 minims in each; are convenient for use when fractured.

Produces anæsthesia in 2 or 3 minutes. Its odour remains longer in the breath of the patient than ether or chloroform; it does not irritate the respiratory passages, and it causes less excitement and tendency to struggle than ether or chloroform.—L. i./80,981; B.M.J. i./80,601; Pr. xxiv.384.

Notes and letter on its use for anæsthesia,—one death from, patients manifest a great dislike to its odour.—B.M.J. i./80,565,586,983; M.R. 1880,273.

Useful and safe as a general anæsthetic—is not such a depressent as chloroform; and as a local anæsthetic in neuralgia.—Trans. Med. Cong. 1881,i.449; B.M.J. ii./82,934.

Notes of 15 cases of anæsthesia and its characteristics; is safe as an anæsthetic can be, rapid in its action and pleasant in its effects, and is not inflammable.—Glasgow Med. Jour. March 1880,259.

For local anæsthesia, recommended as spray or simply short covered contact, not necessary to freeze the part, all feeling ceases. Is of great service to dentists.—L. i./82,212.

Physiological experiments with.—As an anæsthetic it appears to be as safe as ether, and certainly more so than chloroform.—P.J. 1880,3.

Action on self—inhaled on three occasions.—B.M.J. i./84,812.

As an anæsthetic, is rapid, effective, and very free from danger.—P.J. 1887,89.

ÆTHYL IODIDUM.

Iodide of Ethyl.—*Syn.* HYDRIODIC ETHER.

May be obtained by distilling a mixture of alcohol, iodine, and phosphorus. It is a colourless liquid, but liable to become coloured by setting free iodine. It has a penetrating ethereal odour; boils at 148° F., has Sp. Gr. 1·94; is not inflammable. When dropped on red-hot charcoal, it gives off a purple vapour. It is dissolved by alcohol and ether, but not readily by water.

It is useful inhaled as an anæsthetic to relieve the dyspnœa of bronchitic asthma and œdematous laryngitis. As it contains four-fifths of its weights of Iodine, it forms a rapid means of saturating the system with this element; it neither impairs appetite nor weakens digestion.

Iodide of Ethyl Capsules.

Encased in cotton wool and silk, containing 5 minims in each. The glass capsule is snapped, the fluid absorbed by the wool, &c., and inhaled for four or five minutes. This may be repeated 3 or 4 times a day.

Increases the bronchial secretion, stimulates the respiratory centres;—5 cases of paroxyms of asthma quickly relieved; of advantage in cardiac and laryngeal dyspnœa.—Pr. xxi.446; M.T.G. i./78,149.

Useful for inhalation in œdema of the glottis from catarrhal laryngitis.—Pr. xxiii,136.

Acts as an antispasmodic in spasmodic asthma and certain forms of nervous dyspnœa: iodine can be detected in the urine 10 minutes after inhalation, and as long as 30 hours after.—Pr. xxv.459.

The ether in the glass capsules is remarkably pure, containing hardly a trace of free iodine, and, as it is protected from light and air, it is likely to keep. Of course, the patient requires no assistance, and can take one of the capsules from the bed side, even in the dark.—L. ii./79,879.

AGARICUS ALBUS.

White Agaric.—*Syn.* POLYPORUS OFFICINALIS; BOLETUS LARICIS; FUNGUS LARICIS; LARCH OR PURGING AGARICUS.

Dose.—10 to 30 grains.

In white irregular pieces, deprived of the outer rind, the size of the fist or larger; is light, spongy, friable, but not easily powdered, odour faint, taste sweetish, afterwards acrid and bitter.

Under the name of Agaricus are sold preparations of the fly agaric, *Amanita Muscaria* (see Muscarine), from which the White Agaric must be carefully distinguished.

Agaricin, a white crystalline powder, is recommended in doses of $\frac{1}{12}$ to $\frac{1}{6}$ grain.

Agaric is in large doses a purgative, small ones an astringent, given to check night sweating (M.R. 1879,267; Pr. xxiii.209) and diarrhœa, to diminish bronchial secretion, and to dry up the milk after weaning.

For night sweats dose of $\frac{1}{13}$ grain in pill acts in about 6 hours.—L. i./84,405; L. i/86,223; Th. Gaz. April, 1888,246.

For night sweats should be combined with Dover's Powder, which checks its laxative action.—Th. Gaz. Jan. 1888,41.

Preparations.

Extractum Agarici. *Dose.*—3 to 6 grains in pill. Prepared with rectified spirit.

Tinctura Agarici. *Dose.*—20 to 60 minims. 1 in 10 of proof spirit.

In night sweating, 3 grains of extract in pill, 2 at bed-time, generally checked, at times they purged.—Pr. xxix.321.

ALCOHOL ETHYLICUM.

Ethylic Alcohol (*Off.*). — *Syn.* ABSOLUTE ALCOHOL.

Is directed to be prepared by dehydrating rectified spirit, first with carbonate of potassium, and then with chloride of calcium, and distilling. The official preparation has Sp. Gr. 0·797 to 0·800, and therefore contains 1 or 2 per cent. of water. It can be commercially obtained of Sp. Gr. 0·796; if chemically pure, it has Sp. Gr. 0·794. It is now official to add to chloroform, and to prepare Liquor Sodii Ethylatis.

ALDEHYDUM DILUTUM.

Diluted Aldehyde, T.H.

A mixture of spirit and Aldehyde (Acetaldehyde) containing 15 per cent. of the latter. Aldehyde is an oxidation product of alcohol preceding the formation of acetic acid, into which, if in the pure state, it readily passes. Diluted Aldehyde is a colourless liquid neutral to test papers, and has an ethereal suffocating odour, producing spasm of the glottis when respired.

Vapor Aldehydi, T.H.

Diluted Aldehyde 80 minims, water to 1 ounce.

A teaspoonful to a pint of water at 140° for an inhalation. Useful in catarrhal congestions and in ozæna.

Paraldehydum, Paraldehyde.

Dose.—30 to 60 minims, or more, in diluted syrup or almond mixture, repeated if needed in ½ an hour.

A colourless liquid at the ordinary temperature, although it, like glacial acetic acid, crystallizes if cooled below 50°F. Sp. Gr. 0·998, may be obtained by treating Aldehyde with dilute sulphuric or nitric acid. Its odour and taste somewhat resemble Aldehyde, but it does not cause the same suffocating action when respired. Soluble 1 in 10 of water. It and its solid congener **Metaldehyde** are polymers of Aldehyde. Metaldehyde is in permanent acicular crystals, insoluble in water.

Capsules of Paraldehyde, 3 minims in each.

Paraldehyde is contained, and probably the principal therapeutic agent, in **Spiritus Ætheris Nitrosi**, B.P.

It resembles chloral in its physiological action, but differs from it in strengthening the heart's action, whilst it diminishes its frequency. It greatly increases the flow of urine, but does not affect the skin, nor does it give rise to digestive disturbances, to headache, or other unpleasant symptoms.—B.M.J.i./83,215,956; L. ii./83, 344; B.M.J.ii./85,99.

Used 150 times in asylum practice. A useful hypnotic quicker than chloral in dose of 30 to 90 minims.—L. i./85,201.

Produces calm and untroubled sleep, not followed by head-ache on awaking; it may be injected hypodermically.—L.i./85,723.

As a narcotic, may be given in those heart diseases in which chloral would be dangerous.—Pr. xxxiii.138; L.i./87,555; ii./87,204.

A good narcotic, unless there be gastric irritation. Is antagonistic to strychnine, and is sedative rather than anodyne.—B.M.J. ii./85,95.

Is satisfactory as an enema to produce sleep.—L. i. /86, 127.

ALOIN (*Off.*).

Dose.—½ to 2 grains in a pill with hard soap.

A crystalline principle obtained by evaporating an aqueous solution of aloes acidulated with hydrochloric acid and freed from resin, and setting aside to cool. The crystals obtained are recrystallized from a weak spirituous solution. Aloin occurs in odourless lemon-yellow crystals, having the characteristic taste of aloes; is sparingly soluble in cold water, about 1 in 60; freely so in alcohol. As obtained from the different varieties of aloes, the products differ slightly, but their medicinal properties are similar. It is named Barbaloin. Socaloin, Nataloin, or Zanaloin, as obtained respectively from Barbadoes, Socotrine, Natal, and Zanzibar aloes, these, though not identical, are homologous bodies. Barbaloin is preferred in commerce.—M.T.G.ii./76,177; P.J.1875,208; P.J.1876,70.

The purgative properties of aloes are due to these crystalline principles and to uncrystallizable matter soluble in water, nearly allied to them. For hypodermic injection a warm aqueous solution of Aloin may be used.

Barbaloin is aperient in doses of 2 grains, and causes less griping than crude aloes.—M.T.G. ii./76,177.

For constipation, Sir A. Clark recommends Aloin, extract of nux vomica, sulphate of iron, myrrh, and soap, of each ½ grain in a pill taken half an hour before last meal of the day. If fæces be hard and dry and there be no special heart weakness, add ½ grain of ipecacuanha, and should griping be caused add also ⅓ grain of extract of belladona—L. i./87,2.

ALUMINIUM.

Alumen (*Off.*).—Potash or ammonia alum may be used.

Alumen Exsiccatum (*Off.*).—Prepared from potash alum.

Ferro-Alumen.—See p. 193.

Glycerinum Aluminis.—See p. 196.

Ophthalmic Discs of Alum contain 1/250 grain in each.

Points of Alum, also of **Sulphate of Copper,** mounted in wooden cases, are prepared for ophthalmic and other uses.

Liquor Aluminii Acetici, Solution of Acetate of Aluminium, P G.

Sulphate of Aluminium (true) ...	300.
Acetic Acid, B.P. (by weight) ...	386.
Precipitated Carbonate of Calcium	130.
Water	1,000.

Having dissolved the sulphate in 800 parts of water, add the acetic acid, and while constantly shaking pour in by degrees the carbonate of calcium mixed with 200 parts of water. Set aside for 24 hours in a warm place, and shake frequently, then decant, press the sediment, and filter the solution. Contains 7½ to 8 per cent. of subacetate of aluminium.

Diluted with twice as much water, thus making a 2½ per cent. solution, it has been used as an antiseptic lotion, and gauze impregnated with a 5 per cent. solution has been used as an antiseptic dressing by Maas of Freiburg. The solution is a powerful antiseptic and slight astringent.—M.T.G. ii./80,506.

Liquor Aluminii Chloridi.

A straw-coloured inodorous liquid, with an astringent taste and acid reaction, Sp. Gr. 1·250; may be obtained by the double decomposition of sulphate of aluminium and chloride of barium. It possesses strong antiseptic properties.

Chloralum.

The common disinfectant, prepared like the last, using calcium chloride, is a much weaker solution, and is darker in colour, owing to its containing some perchloride of iron in solution.—L. ii./70,354,527.

Lapis Divinus, R.O.H.

Alum, sulphate of copper, and nitrate of potassium, of each 1 part, camphor equal to $\frac{1}{50}$ of the whole; fuse together, and run into moulds to form short pointed sticks.

AMMONIUM.

Ammonii Benzoas (*Off.*).—See p. 20.

Ammonii Bicarbonas.—*Dose.*—3 to 10 grains.

In minute white crystals, soluble 1 in 8 of water. As a diffusible stimulant is less caustic in taste and more palatable than the official carbonate; is specially adapted for effervescing draughts in conjunction with citric acid.

Ammonii Bromidum (*Off.*).—*Dose*, 2 to 20 grains.

Is used where the potassium salt may cause too much depression.

Trochisci Ammonii Bromidi. 2 grains in each with fruit paste. For whooping cough, spasmodic affections of the throat, and loss of voice.

Ammonii Carbonas (*Off.*).—*Dose*, 3 to 10 grains.

Ammonii Chloridum (*Off.*).

Dose.—5 to 20 grains.

The pharmacopœia describes both the commercial salt, in tough translucent fibrous masses, and the purer salt, prepared by dissolving the above in water, filtering, and evaporating until snow-white granular crystals are obtained. Either may be used. Liquid extract of liquorice disguises its nauseous taste.

Trochisci Ammonii Chloridi, T.H.

Contains 2 grains of the salt in each, with black currant paste as a basis.

Dose.—One every 3 hours; useful in congestion of the pharynx and larynx, loss of voice arising from cold and bronchial cough.

Vapor Ammonii Chloridi is used in affections of the throat and Eustachian tube. Produced by air being drawn through hydrochloric acid and ammonia in a suitable apparatus and purified by passing through water or a moist sponge.

Ammonii Fluoridum.—See p. 36.

Ammonii Iodidum, U.S.

Dose.—3 to 10 or 20 grains.

A white granular salt, in minute crystalline cubes, very deliquescent and soon becoming yellow or yellowish-brown on exposure to air; odourless when white, with a sharp saline taste and a neutral reaction. Soluble 1 in 1 of water, 1 in 9 of rectified spirit. Should be kept from light and air, else free iodine is quickly liberated. It causes less depression than iodide of potassium, and is sometimes preferred to the latter for syphilis and rheumatism.

Ammonii Nitras (*Off.*).

The fused salt is official for the production of nitrous oxide gas; on heating to 350° F. it is resolved into this gas and the vapour of water.

Ammonii Phosphas (*Off.*).—*Dose*, 5 to 20 grains.

Ammonii Picras.—See p. 41.

Ammonii Sulpho-Ichthyolas.—See p. 219.

Linimentum Ammoniæ.—Solution of Ammonia 1, Olive Oil 3.

Linimentum Opii Ammoniatum.—B.P.C.

Soap Liniment, Compound Camphor Liniment, Tincture of Opium, of each 6 ounces; Belladonna Liniment, Stronger Solution of Ammonia, of each 1 ounce. Mix and filter. (Better to stand a week before filtering.) Resembles the nostrum Bow's Liniment.

Liquor Ammoniæ (*Off.*), Sp.Gr. 0·959. — *Dose*, 10 to 20 minims.

Hypodermic injections of 2 to 6 minims for collapse; or up to 36 minims for snake poisoning, equal to 12 minims of the stronger liquor.

Cobra snake bite, patient recovered after hypodermic injections of 15 minims of the strong liquor diluted with an equal amount of water.—Pr.xl.291.

Liquor Ammoniæ Fortior (*Off.*), Sp.Gr. 0·891.—*Dose*, 3 to 6 minims. Is three times the strength of last preparation.

Liquor Ammoniæ Fortissimus, Sp.Gr. 0·88. It should be about 2·6 per cent stronger than last preparation.

Liquor Ammonii Acetatis Fortior (*Off*). *Dose.*—25 to 75 minims. 1 to 4 of distilled water forms

Liquor Ammonii Acetatis (*Off*). *Dose.*—2 to 6 drachms.

Liquor Ammonii Citratis Fortior (*Off.*). *Dose.*—30 to 75 minims. 1 to 4 of distilled water forms

Liquor Ammonii Citratis (*Off.*). *Dose.*—2 to 6 drachms.

Spiritus Ammoniæ Aromaticus (*Off.*). *Dose.*—15 to 60 minims. See p. 13.

Spiritus Ammoniæ Fœtidus (*Off*). *Dose.*—15 to 60 minims.

AMYL NITRIS.

Nitrite of Amyl (*Off.*).

Dose.—By inhalation, the vapour of 2 to 5 minims By the mouth ½ to 1 minim.

A yellowish ethereal liquid with a peculiar not disagreeable odour; produced by the action of nitric or nitrous acid on pure amylic alcohol.—Sp. Gr. 0·887; about 70 per cent. of it passes over as vapour below 212° F., —it is difficult to obtain uniform; soluble in spirit, insoluble in water. It deteriorates by exposure to the air and becomes comparatively inert. Tested by means of Allen's Nitrometer, a 5 per cent. solution in spirit should yield seven times its volume of nitric oxide gas.

In 30 to 40 seconds after inhaling or swallowing a dose it flushes the face, and increases the heat and perspiration of the head and neck.

It has been successful in relieving angina pectoris, sea sickness, ague, spasmodic asthma, migraine, neuralgic dysmenorrhœa, post-partum hæmorrhage, as an antidote to chloroform, to ward off epileptic attacks, and for the spasm of false croup and whooping-cough.

Preparations.

Capsules of Nitrite of Amyl.

Encased in cotton wool and silk, containing 1, 2, 3, or 5 minims.

In use the glass capsule is broken, the liquid soaks the cotton wool and silk cover, and can be inhaled most conveniently. For practical purposes the 3-minim size meets all wants.—L. ii./78,89; B.M.J. i./78,452.

In chloroform syncope, Nitrite of Amyl affords the quickest means of restoring the heart's action; the capsules are the most convenient form of using it.—B.M.J. ii./84,1063; Brit. Dent. Jour. 1884,745; B.M.J. ii./85, 588-9.

Mistura Amyl Nitritis.

Nitrite of Amyl	16 minims
Rectified Spirit	2 drachms.
Mix and add to Powdered Tragacanth (contained in a dry 4-ounce phial)	6 grains.
Then add gradually	
Distilled Water ... to	4 ounces.

Shake well.

Dose.—1 or 2 drachms; is useful against sea-sickness.

Glycerine Mixture: — Nitrite of Amyl, 36 minims; Alcohol (0·83), 6 drachms; Glycerine to 1½ ounces. *Dose.*—One teaspoonful in warm water, taken slowly.—Asclepiad, 1884,166.

For the treatment of angina pectoris 5 drops inhaled; the physiological action occurs in 30 to 60 seconds.—L. ii./67,97; L. ii./75,445; M.T.G. ii./70,272,321; M.T.G. ii./76,17.

In ague, on the onset of the cold stage, 5 minims inhaled cuts short the attack and checks the recurrence of the paroxysms.—L. i./78,37,185,445; L. ii./78,693; L. i./85,911.

As an antidote to chloroform 3 minims inhaled.—L. i./75,644; B.M.J. i./79,969; Br. ii./79,xxi.

Very useful in sea-sickness, 3 drops (from a glass capsule) inhaled and repeated every 2 or 3 hours if necessary. — L. i./79,650,687,759; L. ii./79,212,226, 265,301,303.

In post-partum hæmorrhage, 5 minims inhaled restored patient from collapse.—B.M.J. ii./79,691.

To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.—B.M.J. i /79,863.

In tetanus inhale a dose in every spasmodic seizure to gain time.—M.T.G. i./70,472; L. i./74,871.

Relieves infantile convulsions, ½ to ¼ minim in alcoholic solution given on sugar.—L. i./82,667.

Is a powerful agent to relax uterine spasms and hourglass contraction, whether natural or caused by ergot.—B.M.J. i./82,377.

Ten per cent. solution in spirit may be given hypodermically for colic and acute lumbago.—B.M.J. i./82,817.

Is the best antidote to an overdose of cocaine.—B.M.J. i./88,757.

Recommended as a domestic remedy for the various aches and pains of every-day life, externally for stomachache, colic, toothache, and neuralgia, and inhaled in hemicrania, chlorotic dysmenorrhœa, dizziness, faintness, threatened paralysis of the heart and asphyxia from drowning or hanging.—Pr xxviii 139.

In uræmic asthma, Nitrite of Amyl capsules found useful.—B.M.J. i /83,811,956,1064,1115.

In puerperal eclampsia, excretion of uric acid largely increased under its use.- Pr. xxxiv 50.

1 part to 9 of methylal inhaled in angina is less sudden in its action, but more prolonged.—L. ii/87,861; C. & D. ii./87,714.

AMYLENI HYDRAS.

Hydrate of Amylene.

Syn.—Dimethyl-ethyl Carbinol. *Dose.*—30 to 80 minims, flavoured with extract of liquorice.

A colourless liquid, of pungent taste and odour, resembling a mixture of paraldehyde and camphor. Soluble in 12 parts of water, also in alcohol. Sp. gr. 0·812, boiling point 216° F. It is a hypnotic, occupying an intermediate position between chloral and paraldehyde. —B.M.J. 1/88,87, 549; P.J.1887,89.

Capsules contain 10 minims in each. *Dose.*—3 to 6.

More free from smell and less dangerous than paraldehyde.—Th. Gaz. Sept. 1887,605.

Is a reliable hypnotic, does not disturb the stomach.—Th. Gaz. Dec. 1887,819; May, 1888,331.

Is less effective, but more safe than chloral.—Th. Gaz. April, 1888,267.

ANACARDIUM.

Anacardium Occidentale; Cashew Nut.

The pericarp of this reniform-shaped nut contains a quantity of acrid, caustic and vesicating, oily liquid, which produces a dark-coloured stain and an eczematous inflammation of the skin. This liquid has been employed as a specific for leprosy, and as an application for ringworm, corns, and obstinate ulcers, yet three or four drops may be swallowed without marked effect. It is given internally as a vermifuge. It consists of about 90 per cent. of Anacardic acid and 10 per cent. of Cardol. To the latter the vesicating properties are probably due. The kernels of the nuts are edible.—P.J. 1845,268, P.J. 1882,708.

Tinctura Anacardii.—Tincture of Cashew Nut 1 in 10 of rectified spirit. *Dose.*—2 to 10 minim

The Marking-Nut obtained from *Anacardium officinarum* contains a similar fluid in the pericarp, and possesses similar properties.

ANTHEMIDIS FLORES.

Chamomile Flowers (*Off.*).

In addition to the official Extract, Infusion and Oil, there is prepared from the flowers of *Anthemis nobilis*:—

Tinctura Anthemidis.

Chamomile Flowers, single and fresh .. .	1 pound.
Rectified Spirit . ..	24 ounces.

Macerate a week, press out the liquid, and add to the mass

Distilled Water	8 ounces.

Digest 24 hours; press again; and add the liquid pressed out to the first liquid obtained; set aside a week and filter. *Dose.*—3 to 10 minims, or more.

Chamomile infusion or tincture in small doses is useful in summer diarrhœa of children, often occurring during teething, and in which there are green, many-coloured and slimy stools; it quiets their peevishness.—R.

ANTHOXANTHUM ODORATUM.

Sweet Vernal Grass.

The flowers of this owe their odour on drying to Coumarin. Their pollen is said to be the principal cause of hay-fever, and accordingly, by those who believe in *similars*, a tincture of the plant has been used, internally and locally as a lotion, for this troublesome disease.

Tinctura Anthoxanthi.

One of fresh-flowering herb in 10 of spirit 40 O.P., making allowance for the moisture the plant contains.

Dose.—2 to 6 minims.

Antifebrin.—See p. 129.

Antifungin.—See p. 25.

ANTIMONII CHLORIDUM.

Chloride of Antimony. *Syn.*—TRICHLORIDE OF ANTIMONY.

When pure is in colourless crystals, or translucent crystalline masses, known as butter of antimony. It is very corrosive; on addition to water, it decomposes into free hydrochloric acid and basic oxychloride of antimony, powder of Algaroth.

Liquor Antimonii Chloridi (*Off.*).

A heavy caustic liquid of a yellowish red colour; Sp Gr. 1·47. It is coloured by impurity, perchloride of iron often added intentionally. It can be obtained colourless. Chloride of antimony is a useful caustic and desiccating escharotic, does not cause much pain.

Antipyrin.—See p. 130.

Antithermin.—See p. 132.

APIOL.

Dose.—3 to 6 minims, in perles.

A liquid preparation obtained from, and containing the active properties of, the fruit of *Apium Petroselinum*, common parsley. It is a green oily liquid, with a peculiar odour and a pungent taste like parsley, is not miscible with water, but dissolves readily in alcohol and ether. A stearoptene in light, colourless, acicular crystals, only slightly soluble in water, is also known by the name of **Apiol.** It has been employed as an antiperiodic for ague, and also for amenorrhœa and dysmenorrhœa. As its odour is strong and persistent, it is best administered in the form of

Perles. *Dose.*—1 or 2, contain 3 minims in each.

Had decided efficacy in primary amenorrhœa or deficiency of secretion, as well as in accidental suppression and in dysmenorrhœa, a perle given night and morning for 4 or 5 days during the epoch.—M.T.G. i/61,97.

Amenorrhœa, successful in several cases.—L. i./85,59.

APOCYNUM CANNABINUM.

American Indian Hemp. *Syn.*—APOCYNUM, CANADIAN HEMP, U.S.

Dose of root in powder.—1 to 20 grains.

A resin Apocynin, in white micaceous crystals, soluble in alcohol and ether, a heart poison, arresting it in systole; and a glucoside Apocynein, have been isolated from this root. These must be distinguished from **Apocynin,** an eclectic brown-coloured extractive, given in *dose* of ½ to 1 grain.

Tinctura Apocyni Cannabini.

1 in 10 of proof spirit. *Dose.*—5 minims to a drachm.

American Indian Hemp is a powerful emetic and diaphoretic in large doses, it also acts as a cathartic, anthelmintic, and diuretic, useful in dropsy and Bright's disease.

Considered one of the best diuretic and hydragogue cathartics, a small quantity produces diuresis, emesis, or catharsis; it has an agreeable aromatic taste and also possesses tonic properties.—Pr. xxviii.62.

Uræmia is warded off by the profuse diuresis it produces.—Y.B. 1886,67.

Very valuable in removing pleuritic effusion.—Ed.M.J. 1887,647; Th. Gaz. Jan. 87,29.

APOMORPHINÆ HYDROCHLORAS.

Apomorphine Hydrochlorate (*Off.*).

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ as an expectorant; $\frac{1}{12}$ to $\frac{1}{4}$ grain as an emetic by mouth, $\frac{1}{25}$ to $\frac{1}{6}$ grain hypodermically.

A derivative of morphine or codeine obtained by heating them with an excess of hydrochloric acid and without access of air. Apomorphine is morphine deprived of a molecule of water. In commerce the hydrochlorate occurs in minute pale greyish, white, acicular crystals, soluble 1 in 35 of water, but the solution turns emerald-green in colour, but loses little of its medicinal powers. This discolouration is due to the action of free ammonia in the air, a trace of which will develop the tint. Insoluble in ether and chloroform.

It acts as a non-irritant emetic and powerful anti-stimulant; in bronchial asthma doses of $\frac{1}{6}$ grain are very useful. Small doses are expectorant. May be given as

Tabellæ Apomorphinæ, $\frac{1}{50}$ grain in each combined with chocolate.

Injectio Apomorphinæ Hypodermica (*Off.*).

Hydrochlorate of Apomorphine	2 grains.
Camphor Water	100 minims.

Filter. *Dose.*—2 to 8 minims as an emetic.

Two minims of diluted hydrochloric acid added to the above keeps it stable and colourless, yet does not make it irritating when injected; camphor water is useless.

It loses not much in strength by becoming coloured.—L. ii./85,641.

Hypodermic Discs are prepared containing $\frac{1}{10}$ grain in each.

Syrupus Apomorphinæ Hydrochloratis, B.P.C.

Hydrochlorate of Apomorphine, 5 grains; Diluted Hydrochloric Acid, 2 drachms; Rectified Spirit, 7 drachms; Distilled Water, 7 drachms; Syrup, 18 ounces.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

Never failed to produce vomiting by a single dose, one-fifth of a grain by the mouth or one-tenth of a grain hypodermically. The vomiting seems to put an end to itself; there is no subsequent nausea, nor is it followed or accompanied by any ill effects.—Trans. Clin. Soc. ii./69,166; M.T.G. ii./79,592.

Causes free vomiting, followed by sleep.—B. & F. M. Ch. Rev., 1875,503.

In a case of poisoning by carbolic acid of great use as an emetic.—Pr. xix.377.

Œsophagus obstructed by plum-stone, by injecting apomorphine hypodermically the vomiting caused its removal. Useful as an emetic in poisoning or stomach overloaded.—Pr. xxi.375.

As an emetic and depressent in alcoholic intoxication, and poisoning, with essential oil of bitter almonds and carbolic acid, cases recovered.—Stillé and Maisch.

In sunstroke one-sixteenth of a grain injected caused emesis in less than ten minutes, temperature was reduced, skin became slightly moist, pupils dilated, whilst sensation and movement returned within half an hour.—Pr. xxiv.456.

Summary of physiological action.—Pr. xxiv.367.

Hysterical coma, one-tenth of a grain cured.—B.M.J. i./80,477.

Useful as an expectorant in bronchitis and catarrhal pneumonia of children.—Pr. xxvii.285.

Two cases of poisoning treated by hypodermic injections of apomorphine, one alcoholic, recovered, the other by oxalic acid, was fatal.—L. i./83,1073.

As an expectorant $\frac{1}{20}$ grain every 2 hours is useful, or, given with the same quantity of morphine every 2 or 4 hours, it lessens cough and increases fluidity of sputa.—M.R. 1882,483,497.

Is a safe, certain, and quick emetic.—B.M.J. i./83,907.

In carbolic acid poisoning $\frac{1}{8}$ grain hypod. injected emptied stomach, recovery followed.—L. ii./83,280.

In dose of 2 to 6 milligrammes ($\frac{1}{16}$ to $\frac{1}{5}$ grain), it relieves the spasm of hiccup, epilepsy, and chorea, without causing nausea.—L. ii./84,1166.

On the eye, its solution acts like cocaine as a local anæsthetic and mydriatic, but its action is always followed by nausea.—Ther. Gaz. Aug. 1885,524; P.J. 1885,287.

In Pertussis is given with good effect, combined with morphine.—B.M.J. ii./87, 78.

ARGENTI NITRAS.

Nitrate of Silver (*Off.*).—*Syn.* LUNAR CAUSTIC.

Dose.—⅙ to ⅓ grain or more in a pill, best with kaolin ointment as an excipient—*not* with bread crumb, —this contains common salt, which decomposes it.

Mitigated Nitrate of Silver is prepared of various strengths by fusing together nitrate of silver 1 to 1, 1 to 2, or 1 to 3 of nitrate of potassium, for the use of oculists and surgeons.

The fused mixture of 1 part with 2 of nitrate of potassium is now official as **Mitigated Caustic,** or

Argenti et Potassii Nitras (*Off.*).

Antidote to Nitrate of Silver—common salt given in some demulcent drink. Salt is also used to arrest its action locally as a caustic.

Toughened Caustic (*Off.*).

Has 5 per cent. of nitrate of potassium added to it before fusing and moulding it into caustic points.

Injectio Argenti Hypodermica.

Chloride of Silver,* freshly prepared	0·5 gramme.
Hyposulphite of Sodium ...	3 grammes.
Distilled water to... ...	100 c c.

Dose.—2 to 10 minims. Should be freshly prepared.

Hair Dye (**Black** or **Brown**).

No. 1 Solution.—Nitrate of Silver, 80 grains; Distilled Water, 2 ounces.

No. 2 Solution.—Sulphurated Potash, 4 drachms; Distilled Water, to 4 ounces. After washing and drying the hair, the solutions to be applied separately, in above order, and after 2 minutes the hair well washed with rain water. This dyes black, but lighter shades may be obtained by using a weaker strength of No. 1 solution, which should not be allowed to touch the skin.

Black Dye.

No. 1 Solution.—Pyrogallic acid, ¼ ounce; Rectified Spirit, 2 ounces; Distilled Water, 10 ounces. Use first.

No. 2 Solution.—Nitrate of Silver, ¼ ounce; Strong

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* This quantity of chloride is best obtained by the double decomposition of nitrate of silver 0·55 gramme in aqueous solution, and pure chloride of sodium 0·8 gramme, filter and wash the precipitate,—this readily dissolves in the solution of the hyposulphite above.

Solution of Ammonia, $\frac{1}{4}$ ounce; Distilled Water to 2 ounces. Use as last recipe.

Ophthalmic Discs of Nitrate of Silver contain $\frac{1}{500}$ grain in each combined with gelatine.

ARSENIUM.

Metallic Arsenic.

Acidum Arseniosum. Arsenious Acid.

Syn.—ARSENIC; WHITE ARSENIC; ARSENIOUS ANHYDRIDE-

Arsenious anhydride, obtained by roasting arsenical ores, and purified by sublimation. This is the most generally used preparation of arsenic; much used for skin diseases, given as

Liquor Arsenicalis, Fowler's Solution.

Syn.—LIQUOR POTASSÆ ARSENITIS (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh stronger than in B.P. 1867; contains 1 per cent. of arsenious acid.

Arsenious Acid, in powder...	87 grains.
Carbonate of Potassium ...	87 grains.

Add half a pint of distilled water to these in a flask, and heat till dissolved; cool and add

Compound Tincture of Lavender	5 drachms.
Distilled Water *q.s.* to ...	1 pint.

Liquor Arsenici Hydrochloricus (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh part stronger than before; contains 1 per cent. of arsenious acid. Is compatible with alkaline mixtures.

Arsenious Acid, in powder...	87 grains.
Hydrochloric Acid	2 drachms.

Boil these with 4 ounces of distilled water till dissolved, and dilute with

Distilled Water *q.s.* to ...	1 pint.

De Valangin's Mineral Solvent was one-third the strength of the above.

Long-continued administration of arsenic may produce epithelial cancer.—B.M.J.ii./87,1280; L.ii./87,1166.

Liquor Arsenici Bromatus, Solution of Bromate of Arsenic.—*Syn.* CLEMENS' SOLUTION OF ARSENITE OF BROMINE.

Dose.—1 to 3 or 5 drops, once or twice a day.

Carbonate of Potassium ...	60 grains.
Arsenious Acid, in powder...	60 grains.
Distilled Water	10 ounces.

Boil until dissolved. When cold, add

Distilled Water, *q.s.* to ...	12 ounces, and
Bromine	2 fluid drachms.

Set aside until it decolorises. Useful in epilepsy and diabetes with careful diet.—B.M.J. i./85,701.

In addition to these solutions, arsenious acid is administered in pilules of various strengths. It should be well and carefully triturated with sugar of milk for some length of time before any liquid excipient is added. Those containing $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{60}$, $\frac{1}{100}$, and $\frac{1}{120}$ grain are generally kept made. To increase its tonic effect it is often combined with iron, as in

Pilula Ferri Arsenicalis.

Arsenious Acid, in fine powder	$\frac{1}{60}$ grain	in one pill.
Dried Sulphate of Iron ...	3 grains	
Syrup	$\frac{1}{2}$ minim	

Arsenii Iodidum, Iodide of Arsenium, Arsenious Iodide (*Off.*).

Dose.—$\frac{1}{30}$ grain, in a pill.

The two elements by direct combination form small orange-coloured crystals, readily and almost entirely soluble in water and in spirit. It is official to form

Liquor Arsenii et Hydrargyri Iodidi.

Syn.—DONOVAN'S SOLUTION.

Dose.—5 to 15 minims, or 30 (!) B.P.; is about one-fifteenth stronger than the original formula.

Iodide of Arsenium ...	45 grains.
Red Iodide of Mercury ...	45 grains.

Triturate these in $1\frac{1}{2}$ ounces of distilled water till nearly all dissolved. Filter, and wash the filter with

Distilled water *q.s.* to produce 10 ounces.

Given for syphilitic skin diseases.

Pilula Arsenii et Hydrargyri Iodidi contains $\frac{1}{12}$ grain of each salt = $7\frac{1}{2}$ minims of the solution.

Dose.—1 or 2. See p. 207.

Ferri Arsenias (*Off.*).—*Dose.*—$\frac{1}{16}$ to $\frac{1}{2}$ gr. in a pill.

Quininæ Arsenias. See p. 318.

Sodii Arsenias (*Off.*).—*Dose.*—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

As this salt crystallizes with either 7 or 12 molecules of water of crystallization, and is efflorescent as well, the proportion of arsenic it contains is uncertain. It is therefore directed to be made anhydrous, and dried under 300° F. for making

Liquor Sodii Arseniatis.—*Dose.*—5 to 10 minims.

Arseniate of Sodium, anhydrous 1 part.
Distilled Water .. ... 99 parts.

This solution now contains 1 per cent., and is about one-eleventh part stronger than before. It is about three times the strength of Pearson's Solution of Arsenic (Codex), which is much used on the Continent; this contains 1 of crystallized arseniate in 600 of water.

ASPARAGIN.

Syn. ALTHEIN. *Dose.*—1 to 2 grains.

In hard crystals, which are transparent colourless right rhombic prisms, having a slightly acid reaction.

May be obtained from *Asparagus officinalis*, and the roots of marshmallow, liquorice, belladonna, &c. Soluble 1 in 12 of cold water, dissolves in acid and alkaline solutions. Insoluble in absolute alcohol and ether.

For cardiac dropsy and chronic gout one grain is given three times a day as a diuretic in combination with bromide of potassium.—P.J. 1879, 243.

ATROPINA (*Off.*).

Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{80}$ grain increased to $\frac{1}{10}$, or in acute mania to $\frac{1}{8}$ grain or more.

An alkaloid obtained from *Atropa Belladonna.* It is generally in hard white acicular prismatic crystals or crystalline masses, strongly alkaline, soluble 1 in 500 of water, 1 in 8 of rectified spirit, 1 in 36 of ether, 1 in 3 of chloroform, 1 in 40 of olive oil, very soluble in glycerine and oleic acid. Melts at 239° F. Being so insoluble in water, it is not suitable for internal use,—generally given as a sulphate.

In commerce a kind of atropine is sometimes met with in light acicular crystals not quite so white as, but resembling, sulphate of quinine in appearance; although obtained from belladonna, this consists according to Ladenburg principally of pure hyoscyamine. His researches prove that the three mydriatic pure alkaloids, Atropine

Hyoscyamine, and Hyoscine, are contained as follows:—
Atropine in Atropa Belladonna* and Datura Stramonium.
Hyoscyamine in Atropa Belladonna, Datura Stramonium,
and Hyoscyamus niger.*
Hyoscine in Hyoscyamus niger and Duboisia myoporoides.

"Heavy daturine" is identical with atropine; "light daturine" and "light atropine" are identical with hyoscyamine. Duboisine is nearly pure hyoscine. Pure atropine and pure hyoscyamine as well as hyoscine are isomeric alkaloids, but possess different chemical and physical characters. By the action of baryta water both Atropine and Hyoscyamine split up into Tropic Acid and Tropine. Hyoscine splits up into Tropic Acid and Pseudotropine. Therapeutically, Hyoscine possesses about five times the calmative power of Atropine or Hyoscyamine.

Tropine and tropic acid may be recombined under certain conditions to form Atropine, or tropine may be combined with other acids such as salicylic or amygdalic acid to form salts. These salts when treated with diluted hydrochloric acid form a class of artificial alkaloids, to which the generic name of *tropeines* is given. One of these so produced from the amygdalate of tropine is Homatropine or oxytoluyltropeine. This body will, like Atropine, form salts with acids.—Liebig's Annalen, vol. ccvi.307.

Salts of Homatropine.—See p. 84.

The writer found that commercial Atropine, Daturine, and Hyoscyamine possessed different neutralising powers in regard to acids; of the three Atropine is most alkaline, Hyoscyamine the least.—P.J. 1876,471.

Atropine possesses the properties of belladonna in a marked degree. It has been principally used for ophthalmic purposes as the sulphate of the alkaloid to dilate the pupil and to paralyze the accommodation. Given internally or hypodermically, it is antagonistic to opium and morphine, Calabar bean and physostigmine, jaborandi and pilocarpine, aconite and aconitine, muscarine, bromal, and hydrocyanic acid. Physiologically, whilst it acts as a "stimulant" to a large part of the central nervous system, it paralyzes many of the nerves.

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* Recent experiments tend to show that atropine does not exist as such in these plants, but is a conversion product of hyoscyamine or "light atropine," formed during the process of manufacture, and that pure hyoscyamine may be converted into "heavy atropine" by melting under reduced pressure, or by the addition of a trace of caustic soda to its alcoholic solution. Pure atropine melts at 113°-116° C., and is optically inactive; pure hyoscyamine melts at 108°-109° C., and is levogyrate.

Atropinæ Santonas, Santonate of Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased as the sulphate.

A white powder consisting of minute granular crystals, soluble 1 in 80 of water. Aqueous solutions, dispensed in yellow bottles, are not liable to become fungoid; they are very useful for ophthalmic use, being also unirritating. —Ed. M.J. 1886, 80, 170; Th. Gaz. June, 1886; Pr. xxxviii.458, xl.58.

Atropinæ Sulphas (*Off.*).

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain increased to $\frac{1}{10}$, or in cases of acute mania $\frac{1}{8}$ grain.

In masses of opaque white minute crystals, or—according to B.P.—a colourless powder, soluble 1 in 4 of water. The crystallized preparation is much to be preferred.

Salicylate and **Valerianate** of **Atropine,** are used.

The solution of the salicylate is said to have special advantages in not undergoing change by keeping. Soluble 1 in 20 of water.—Br. i./81,lxii.

Liquor Atropinæ Salicylatis (Charing Cross Hospital).—Atropine, ½ grain; Salicylic Acid, [illegible] grain; Water, 1 ounce.

Lamellæ Atropinæ, Discs of Atropine (*Off.*).

Contain $\frac{1}{5000}$ grain of the sulphate in each, combined with gelatine, for dilating the pupil; others (non-official) containing $\frac{1}{250}$ grain paralyse the accommodation. They are also prepared containing combined Sulphate of Atropine, $\frac{1}{1000}$ grain, with Hydrochlorate of Cocaine, $\frac{1}{100}$ grain; and Sulphate of Atropine, $\frac{1}{5000}$ grain, with $\frac{1}{250}$ grain of Morphine respectively.

Hypodermic Lamels contain $\frac{1}{120}$ grain in each and also this dose combined with Acetate of Morphine, ¼ grain.

Injectio Atropinæ Hypodermica.

Sulphate of atropine, 4 grains to the ounce of distilled water. *Dose.*—1 to 4 minims, or more. In R.O.H. it is half this strength.

Injectio Morphinæ et Atropinæ Hypodermica. —See Morphina, p. 252.

Linimentum Atropinæ.

Atropine	4 grains (more or less, if ordered).
Oleic Acid	1 drachm.
Castor Oil	1 drachm.
Oil of Lavender	5 minims.
Rectified Spirit to ...	1 ounce.

In lumbago and other rheumatic affections is very serviceable used with gentle friction; it is readily absorbed.

Liquor Atropinæ Sulphatis (*Off.*).

Sulphate of atropine 1 to 99 parts of camphor water.

Dose.—1 to 4 minims, or more.

Is much used for ophthalmic purposes. The sulphate should not be acid, else the solution will be irritating to the eye. It is better to use the crystallized salt, a solution of which is much more stable than that of the B.P. salt. In many cases in which it is used for the eye this solution is much too strong, as it is apt to produce glaucoma.—B.M.J. ii./82,93,178,193.

Guttæ Atropinæ Sulphatis, R.O.H.

Have 2 grains of the salt, to the ounce of distilled water. Guttæ Atropinæ Sulphatis Mitiores R.O.H. and Guttæ Atropinæ Sulphatis Fortiores R.O.H. have respectively 1 and 4 grains to the ounce; also combined with Alum 3 grains, or Sulphate of Zinc 1 grain to the ounce of above weakest drops. R.O.H. also orders the combination of 10 grains of Hydrochlorate of Cocaine with 2 grains of Sulphate of Atropine to the ounce of distilled water. In R.O.H. camphor water as a preservative is disapproved of.

Oleatum Atropinæ.

Atropine	5 grains.
Oleic Acid	200 minims.

Heat in a water bath till dissolved. Perfume with otto of rose, or lavender, if preferred.

Useful to paint on painful parts.

Pessaries of Atropine are prepared with gelatine mass or at times with oil of theobroma, containing generally about $\frac{1}{20}$ grain of the alkaloid in each.

Pilula Atropinæ, $\frac{1}{120}$, $\frac{1}{100}$, $\frac{1}{80}$, $\frac{1}{60}$ grain in each.

Taken at bedtime, to check night-sweating. Is apt to cause dryness of the throat.

Pilula Atropinæ, Arsenici et Quininæ.

Sulphate of quinine 18 grains, solution of arsenic 12 minims, solution of sulphate of atropine 1 minim, extract of gentian 20 grains, and acacia *q.s.* to make 12 pills. For catarrh, if taken in early stage, one every 3, 4, or 6 hours, nip it in the bud.—Pr. xxxviii,179.

Unguentum Atropinæ (*Off.*).

Atropine 8 grains, dissolved in ½ drachm of rectified spirit, and mixed with an ounce of lard.

Unguentum Atropinæ, R.O.H., is prepared with vaseline like Vaselinum Atropinæ, but with 4 grains of atropine to the ounce. **Unguentum Atropinæ cum Acido Borico**, R.O.H., has 60 grains of powdered boric acid added to above, and **Unguentum Atropinæ cum Cocaina**, R.O.H., has 10 grains of cocaine (alkaloid) dissolved in the same. **Unguentum Hydrargyri Oxidi Flavi cum Atropina**, R.O.H., has 4 grains of the yellow oxide, and 2 grains of atropine to the ounce of soft paraffin. **Unguentum Iodoformi cum Atropina**, R.O.H., has 60 grains of precipitated iodoform in place of the yellow oxide in last preparation.

Vaselinum Atropinæ.

Atropine (pure alkaloid) ...	8 grains.
Vaseline	8 drachms.

Heat carefully till dissolved. N.B.—Sulphate of Atropine is not soluble in vaseline.

This forms a definite, convenient, and economical mode of applying atropine to the eye. A little may be placed within the lower lid. It produces no irritation. For some purposes it will bear dilution.—Br. ii./82,xci.

As a mydriatic the uses of atropine are well known. —B.M.J. ii./79,364.

Atropine and belladonna either given internally, hypodermically, or used externally, diminish perspiration, and will check this when excessive, as in the night sweats of phthisis and other wasting diseases; should be used locally for profuse sweating of the hands, feet, or other parts; also for leucorrhœa and uterine discharges. They likewise check the secretion of milk and saliva, and antagonise such drugs as jaborandi, opium, Calabar bean, muscarine, aconite, bromal, and prussic acid.—R.

In night-sweating, $\frac{1}{200}$ to $\frac{1}{80}$ grain may be increased to $\frac{1}{25}$ grain, taken at bedtime. Is apt to cause dryness of the throat, and is not so useful for this purpose as picrotoxin or pilocarpine.—Pr. ix.91,224; Pr. xxiii.93.

Causes sleep in acute mania in dose of $\frac{1}{4}$ to 1 grain of sulphate.—Pr. xviii.166; R.

Physiological experiments on antagonism to morphine.—Pr. xviii.356.

Antagonism to pilocarpine.—L. ii./79,479.

One grain of sulphate of atropine subcutaneously injected cured a case of poisoning by laudanum (equal to 12 grains of opium).—L. i./78,354; B.M.J. i./78,267.

A case of poisoning by $2\frac{1}{2}$ grains of sulphate of atropine was entirely cured by 16 centigrammes of hydrochlorate of pilocarpine given in centigramme doses every 5 or 10 minutes.—B.M.J. i./80,366; P.J. 1880,771.

Use of hypodermic injection of atropine previous to the administration of chloroform as an antidote to the cardio-inhibitory effects of chloroform.—B.M.J. ii./80,620,715, 761.

Atropine $\frac{1}{20}$ grain is antagonistic to 1 grain of morphine. In cases of poisoning small doses should be frequently injected hypodermically, and the poison eliminated by drawing off the urine with a catheter frequently.—B.M.J. i./81,239; Pr. xxvi.128.

Case of poisoning by 6 drachms of tincture of opium, treated with two hypodermic injections of sulphate of atropine, with recovery.—L. i./79,843.

Belladonna poisoning successfully treated by hypodermic injection of extract of physostigma.—B.M.J. i./81,918.

In iritis Atropine is indicated, in glaucoma Eserine.—Pr. xxxi.321.

Poisoning by opium (laudanum and paregoric) equal to 18 grains of dry opium, after other remedies had failed, recovered by injecting hypodermically $\frac{1}{60}$ grain doses of sulphate of atropine.—B.M.J. i./84,605.

Hæmoptysis is checked by hypodermic injection of atropine.—B.M.J ii./87,521.

Homatropine, and its Salts, **Hydrobromate, Hydrochlorate, and Salicylate,** are in minute granular white crystals. Their solutions act as quick and decided local mydriatics, the pupil rapidly returning to its normal condition, but Homatropine, it is said, includes none of the poisonous properties of atropine. The salts are freely soluble in water, the Hydrobromate (mostly used) 1 in 10. Pure Homatropine is nearly insoluble in water, but soluble in oils, or 1 in 100 of vaseline. They are costly. *Dose of each.*—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

Guttæ Homatropinæ, R.O.H.

Hydrobromate of Homatropine 4 grains to Distilled Water 1 ounce.

Injectio Homatropinæ Hypodermica, 1 in 120, is used. *Dose*, 1 to 6 minims, increased.

Oleum Homatropinæ cum Cocaina, R.O.H.

Pure Homatropine 10 grains, pure Cocaine 10 grains to Castor Oil 1 ounce. Heat together till dissolved.

Ophthalmic Discs are also prepared containing $\frac{1}{5000}$ grain Homatropine in each, likewise $\frac{1}{5000}$ grain of Homatropine combined with $\frac{1}{200}$ grain of Cocaine, and $\frac{1}{200}$ grain Homatropine with $\frac{1}{200}$ grain of Cocaine in each respectively.

The mydriatic and general physiological properties of the Hydrobromate of Homatropine resemble, but in a weaker degree, those of atropine, excepting that it slows the heart's beats and renders them irregular in force and rhythm.—L. i./80,795.

Action in checking night-sweating inferior to atropine and picrotoxin. Large doses cause staggering gait, like atropine.—Pr. xxv.252.

It enlarges the pupil and paralyzes the ciliary muscles as quickly and thoroughly as an equally strong solution of atropine; but the effects of Homatropine disappear entirely in twelve to twenty-four hours, while the effect of atropine continues for many days, and while it lasts the patient is disabled from reading and writing.—B.M.J. i./82,523.

AURI ET SODII CHLORIDUM.

Chloride of Gold and Sodium.

(Codex and U.S.)

Dose.—$\frac{1}{30}$ to $\frac{1}{12}$ grain in a pill.

An orange-yellow crystalline, deliquescent powder, soluble 1 in 2 of water; only partially soluble in alcohol. The preparation of the codex contains a molecule of each of chloride of gold and chloride of sodium, combined as a double salt. The U.S. preparation is a mixture of equal parts by weight of the two salts; it therefore contains about one-third less gold. It is sometimes used as a caustic, and given internally for syphilis.

BALSAMUM GURJUNÆ.

Gurjun Balsam; Wood Oil.

Dose.—½ to 2 drachms.

A viscid balsam obtained from the trunk of the growing tree *Dipterocarpus turbinatus* and other species of this genus; imported from the East Indies. It is very fluorescent, has an opaque dingy, greenish grey colour seen by reflected light, yet is transparent and reddish brown in strong daylight; it has the weak aromatic odour and bitterish aromatic taste of copaiba without the acridity—has been used as an adulterant of copaiba. It is not completely soluble in either ether or alcohol; emulsified with mucilage of acacia, it is used with success like copaiba, for gonorrhœa; and, in the East, as a remedy for leprosy, an emulsion is made of equal parts of the balsam and lime-water, which is used freely as a liniment and given to the extent of 4 drachms three times daily.

BAPTISIN.

Dose.—1 to 5 grains in a pill with mucilage of acacia. The purified extract of wild indigo, *Baptisia tinctoria*, powdered; of a light brown colour.

Is a mild laxative in small doses, and a powerful emetic and cathartic in large.

It is a moderately powerful hepatic and intestinal stimulant on dogs.—Pr. xxiii.337; B.M.J. ii./78,909.

BEBERINÆ SULPHAS.

Beberine Sulphate (*Off.*).

Dose.—1 to 10 grains, in pills, with glycerine of tragacanth, or in aqueous solution (addition of aromatic sulphuric acid to this makes it agreeable in taste).

Is probably a mixture of the sulphates of beberine, nectandrine, and other alkaloids obtained from Bebeeru bark, the bark of *Nectandra Rodiæi*, or greenheart-tree. Prepared according to the Pharmacopœia, it is in dark brown, thin, translucent scales with strong, bitter taste, soluble 1 in 80 of water, slightly in spirit. A Hydrochlorate of Beberine is also prepared, possessing similar properties and having a similar appearance. The pure salts crystallize with difficulty.

Used as a substitute for quinine in neuralgia, and as an antiperiodic. Very useful also in menorrhagia, 4-grain doses often repeated.—L. i./45,500; L. i./64,458; P.J. 1867,27.

BELLADONNA.
Deadly Nightshade (*Off.*).

The official preparations of *Atropa Belladonna* are made from the dried root, the dried leaf, and the extract from the fresh leaves and branches. The general properties of belladonna in dilating the pupil, and as a narcotic, applied externally or taken internally, are well known. Externally, its preparations are applied to relieve rheumatism, neuralgia, and as a general local sedative for pain. Internally, either alone or in combination with aloes, or sometimes with dried sulphate of iron, $\frac{1}{8}$ to $\frac{1}{4}$ grain of the extract is much used for habitual constipation. It checks, and even suppresses, the secretions of the glands, causes dryness of the throat and of the skin, checks night-sweats, secretion of milk, nocturnal incontinence of urine in children and nocturnal emissions. Large doses produce delirium, a scarlatina rash on the skin, the face becomes flushed, and muscular power is weakened.—R. As a prophylactic to scarlet fever, 10 grains of extract of belladonna, dissolved in 6 ounces of water, are given in teaspoonful doses.

All parts of the plant contain the alkaloid atropine with, in addition, hyoscyamine.

Atropina.—See p. 79.

Chloroformum Belladonnæ (Squire).

Powdered belladonna root, treated by percolation with chloroform to produce from one ounce of powder one fluid ounce of percolate.

Mixes with oils; 1 to 3 olive oil is useful for painful rheumatic affections.

Emplastrum Belladonnæ (*Off.*).

Alcoholic Extract of Belladonna, 1; Resin Plaster, 2; Soap Plaster, 2.

Melt the plasters in a water-bath, add the extract, and mix well. Is reddish-brown in colour, cleaner while worn, and stronger than the old preparation.

Emplastrum Belladonnæ Extensum (*American*).

Belladonna plaster in rubber combination spread on calico in porous sheets 7 in. by 5 in. and in yard rolls 7 in. wide, porous and non-porous.

Is efficacious, pliable, keeps well, and does not "run."

Similar plasters are also prepared with belladonna and aconite combined.

Plaster mulls are spread containing 30 per cent. of **Extract of Belladonna.**

Extractum Belladonnæ (*Off.*).

Dose.—1/6 to 1/2 grain, may be increased to 2 grains or more.

A green extract prepared from the expressed juice of leaves and young branches.

Extractum Belladonnæ Alcoholicum (*Off.*).

Dose.—1/16 to 1/4 grain, or more.

An alcoholic extract prepared by exhausting 1 of root in No. 20 powder with rectified spirit 2½, displacing with water, and evaporating the percolate to an extract; it is about five times as strong as the green extract of the leaves and branches, and is useful for making belladonna plaster, suppositories, and pessaries.

Fomentum Belladonnæ R.O.H.; Midd. H.

Green Extract 60 grains to Distilled Water 1 pint. Used hot.

Glycerinum Belladonnæ.

Extract of Belladonna	...	1 ounce
Boiling distilled water	...	1 drachm or *q.s.*

Rub together in a warm mortar to produce a smooth paste, and add

Glycerine	... ...	1 ounce.

To check pain and inflammation, is often painted on boils, abscesses, and carbuncles, and, covered with a poultice, also applied on lint to the breasts to disperse the milk. The Royal Ophthalmic Hospital Pharmacopœia orders 3½ ounces of glycerine to the ounce of extract.

Linimentum Belladonnæ (*Off.*).

Prepared by percolating 20 ounces of powdered belladonna root with rectified spirit, dissolving in the percolate 1 ounce of camphor, and obtaining 30 ounces of liniment. A useful topical sedative for neuralgia and rheumatic pains.

Linimentum Belladonnæ Compositum (Squire).

Liniment of Belladonna ...	7 ounces.
Chloroform of Belladonna ...	1 ounce.

Sprinkled on impermeable piline or the textile side of American oiled cloth, and applied constantly, relieves lumbago.

Pilula Quininæ cum Belladonna, R.O.H

Extract of Belladonna ⅛ grain, Sulphate of Quinine 1 grain, Confection of Roses, *q.s.*

Pulvis Hydrargyri cum Creta, et Belladonnæ, R.O.H.

Mercury with chalk, 2 parts, Belladonna Leaves, in powder, 1 part. Sugar, in powder, 2 parts. Mix. *Dose.* 5 grains

Succus Belladonnæ (*Off.*).

Dose.—2 to 15 minims,

Expressed juice of leaves and branches with one-third of rectified spirit added.

Is about three times the strength of the tincture.

Hay fever relieved by one minim every hour.—B.M.J. i./83,69.

Suppositorium Belladonnæ.

Extract of Belladonna Root...	½ grain.
Oil of Theobroma	15 grains.

Often ordered to be made with the green extract, but it is almost impossible to get sufficient of this to combine with the basis to be of service. Pessaries may also be made with the extract of the root containing ¼ to 1 grain in each.

Tinctura Belladonnæ (*Off.*).

Dose.—5 to 20 minims, contains 1 of leaves in 20 of proof spirit.

Full doses are very useful for incontinence of urine.—B.M.J. i./85,279.

Unguentum Belladonnæ (*Off.*).

Alcoholic extract 1 part to 9 parts of benzoated lard.

Berberina.—See p. 213.

BISMUTHUM.

Bismuth (*Off.*).

Bismuthum Purificatum (*Off.*).

Is purified from other metals by first fusing with a mixture of cyanide of potassium and sulphur, and then with a mixture of dried carbonates of sodium and potassium.

Bismuthi Carbonas, Carbonate of Bismuth (*Off.*). *Syn.*—OXYCARBONATE OF BISMUTH.
Dose.—5 to 20 grains.

Bismuthi Citras, Citrate of Bismuth (*Off.*).
Dose.—2 to 5 grains.

Is prepared by adding a solution of citrate of sodium to a solution of true nitrate of bismuth as long as any precipitate is formed. The mixture is boiled and filtered and the precipitated citrate of bismuth washed and dried. 800 grains of it is dissolved in weak solution of ammonia *q.s.* to form one pint of

Liquor Bismuthi et Ammonii Citratis (*Off.*).
Dose.—½ to 1 drachm.

Contains 5 grains of citrate = 3 grains of oxide of bismuth in 1 drachm. It is freed from the nitric acid contained in the old preparation, but it is apt to become fungoid. Evaporated to a syrupy consistence and spread on glass and dried, it produces soluble small shining translucent scales of

Bismuthi et Ammonii Citras (*Off.*).
Dose.—2 to 5 grains

Bismuth Hair Dye.—Perfectly harmless.

Add Tartaric Acid 75 grains, dissolved in water 100 minims, to crystallized Nitrate of Bismuth (not Subnitrate) 230 grains, dissolve and pour into a pint of Water. Mix well and pour the magma on a filter, wash it with more water till no longer acid; then dissolve it by adding stronger Solution of Ammonia, 2 drachms; add Glycerine, 20 minims, and Hyposulphite of Sodium, 75 grains, dissolve and add water to measure 4 ounces. This colourless and inodorous liquid gives a deep chestnut colour to white hair after daily repeating a few times. The hair should be washed first.

Bismuthi Oxidum (*Off.*). *Dose.*—5 to 15 grains.

Is prepared by boiling subnitrate of bismuth in solution of soda, washing and drying the deposited dull lemon-yellow-coloured oxide of bismuth.

Bismuthi Oxychloridum, Oxychloride of Bismuth. *Dose.*—5 to 20 grains.

Is prepared by adding an acid solution of trichloride of bismuth to water, or by mixing a solution of true nitrate of bismuth with a solution of common salt. The basic oxychloride precipitated is well washed with water and dried. It forms the pigment known as "pearl white," and is much used as a cosmetic, to make "blanc de perle," &c. It gives a white pearly gloss to the skin. If carefully prepared, it is an impalpable, neutral, unirritating powder, and for many purposes should be preferred to the B.P. subnitrate (which is acid and crystalline), carbonate, or oxide. Even for internal administration, if most of the action of bismuth preparations be due to the mechanical coating they give to the irritated parts of the stomach or bowels, the oxychloride should be preferred, as, besides being an impalpable powder, it is a very insoluble one. It coats and adheres to the mucous membrane, and is very useful in irritated conditions of the mouth, throat, vagina, and rectum. From a quarter to half a grain may be used as an insufflation to the larynx.

Pessaries or **suppositories** may be made with oil of theobroma, containing 10 grains of the oxychloride in each.

Unguentum Bismuthi Oxychloridi.

Oxychloride of Bismuth ...	30 grains.
Vaseline	1 ounce.

Mix. Is useful for anointing the speculum previous to vaginal examinations.

Bismuthi Oxyiodidum, Oxyiodide of Bismuth. *Dose.*—5 to 10 grains.

A brownish red light amorphous powder, without taste or smell, insoluble in water, alcohol, or ether. Has been applied as an antiseptic to ulcerous sores in place of iodoform, and injected in suspension in 100 parts of water for gonorrhœa; also as an ointment for rectal affections. Internally given for ulcer of the stomach.

Bismuthum Peptonatum.

Dose.—80 grains, more or less.

A dry, brown powder, which contains 3·5 per cent. of oxide of bismuth in a soluble form.

Bismuthi Salicylas, Basic Salicylate of Bismuth.—*Dose.*—5 to 20 grains.

A white or pinkish-white powder, obtained by the decomposition of true nitrate of bismuth and a solution of salicylate of sodium; is insoluble in water, alcohol, and glycerine. Has been used with advantage in some forms of diarrhœa, typhoid fever, &c.—P.J. 1883,243, 568; 1885,889; L. i./88,1100.

Valuable remedy for gastric catarrh.—L. ii/86,31.

Bismuthi Subnitras (*Off.*).

Syn.—OXYNITRATE OF BISMUTH.

Dose.- 5 to 20 grains.

Is prepared purest by adding to a quantity of water the large crystals of true nitrate of bismuth, obtained by concentrating a solution of bismuth in nitric acid and setting aside to cool; many impurities remain in the mother liquor. The subnitrate, deposited as above, is washed, pressed, and dried. To obtain a fine powder, it is afterwards generally levigated. It should be remembered that this preparation from its nature is always *acid* in reaction; it is therefore incompatible with alkaline carbonates many bottles of medicine so prescribed burst in transit.

Trochisci Bismuthi (*Off.*).

Contains 2 grains subnitrate of bismuth in each, with about 2½ grains of carbonate of magnesium and 4 of carbonate of calcium incompatible.

Pulvis Bismuthi Compositus (Ferrier's Snuff).

Hydrochlorate of Morphine .	2 grains.
Powdered Acacia . .	2 drachms.
Subnitrate of Bismuth .	6 ,,

Mix. From a quarter to one-half the above to be used as snuff in 24 hours.—L. i./76,525.

BROMAL HYDRAS.
Hydrate of Bromal.

Dose. 2 to 5 grains—3 grains at bedtime for relieving pain or producing sleep.

In large oblique colourless prisms, which melt on the hand, and are not quite so soluble or readily soluble in water as chloral hydrate. Applied externally to the skin, it causes irritation and great infiltration of the tissue, as when dry cupping-glasses are used. It is not suitable for internal exhibition, as it causes pyrosis, vomiting, and diarrhœa.—B. & F. M. Ch. Rev. i./72,509.

It is much more active physiologically than chloral hydrate. Of the latter it required 20 grains to cause the death of a rabbit, whereas 4 or 5 of bromal hydrate are quite sufficient to kill one of the same weight.—B.M.J. ii./74,805.

In epilepsy, tried without success.—Stillé and Maisch.

BRUCINA.

Brucine. —*Syn.* Brucia.

Dose.—1/12 grain increased up to 1/2 grain.

An alkaloid obtained along with strychnine from the seed of *Strychnos Nux-vomica*, and other species of Strychnos. In small white acicular crystals, with bitter taste. Very soluble in alcohol, soluble 1 in 100 of chloroform, 1 in 850 of cold water. Its salts are more soluble in water. It, as well as morphine, gives an intense red colour with nitric acid, which strychnine, if pure, does not. Brucine is difficult to obtain perfectly free from strychnine. It is said to possess only 1/24 the physiological power of strychnine.—P.J. 1877,652,666.

For epilepsy, has curative properties, given as liquor, same strength as liquor strychninæ, 10 minims twice a day, increased every third day by 5 minims, until half a grain is reached.—L. i./69,75.

Note on physiological action.—L. i./83,30.

BRYONIA.

Bryony.—*Syn.* Vitis alba; White Bryony.

Tinctura Bryoniæ, B.P.C.

From bruised fresh roots of *Bryonia alba* or *B. dioïca* a tincture is prepared corresponding in strength, to 1 of dried root to 10 of proof spirit.

Dose.—1 to 10 minims or more.

Useful in pleurisy. Given in small doses, it relieves the pain and allays the cough. In large doses it is an active hydragogue cathartic, sometimes used for dropsy. The fresh plant applied to the skin will cause vesication.

It contains Bryonin, a bitter principle, soluble in water and alcohol, insoluble in ether.

Byne, and Extractum Bynes.
See Maltum, and Extractum Malti, p. 242.

BUTYL-CHLORAL HYDRAS.

Hydrate of Butyl-Chloral (*Off.*).—*Syn.* CROTON-CHLORAL HYDRATE, wrongly so called.

Dose.—2 to 15 grains or more.

In pearly-white crystalline scales, having a pungent odour resembling that of Chloral Hydrate, and an acrid, nauseous taste. Soluble 1 in 100 of cold water; freely soluble in rectified spirit, and about 1 in 4 of glycerine.

It is, perhaps, the most efficacious remedy in facial neuralgia.—R.

A mixture of Menthol 2 parts, with Butyl-Chloral Hydrate 1 part liquefies.—See Menthol, p. 246.

Mistura Butyl-Chloral, T.H.

Hydrate of Butyl-Chloral ...	4 grains.
Glycerine	15 minims.
Water	to 1 ounce.

This dose is very useful as an anodyne in neuralgic affections of the throat, frequently repeated.

Pilula Butyl-Chloral.

Hydrate of Butyl-Chloral ...	3 grains or more.
Glycerine of Tragacanth, or Mucilage of Acacia	*q.s.*

To make one pill.

Dose.—1 every 2 hours, or hourly.

Pilula Butyl-Chloral cum Gelsemina.

Hydrochlorate of Gelsemine $\frac{1}{200}$ grain, is added to each of the above and, for facial neuralgia, given similarly.

Syrupus Butyl-Chloral, B.P.C.

Hydrate of Butyl-Chloral ...	16 grains.
Syrup	1 ounce.

Dissolve the hydrate in the syrup made hot.

Dose.—One to four drachms repeatedly.

Relieves paroxysmal neuralgic pains in the regions supplied by the fifth nerve.—L. ii./72,558.

For toothache of pregnancy and neuralgic toothache, doses of 5 to 15 grains internally; and used also locally. —Pr. xix.382.

It produces slumber without the lowering of the pulse, which chloral itself causes. Dose, 5 to 15 grains.—Br. i./75, 336.

Cured cases of paroxysmal headache in females suffering from mental distress and facial neuralgia; useless in pain from decayed teeth.—B.M.J. i./79,667.

CAFFEINA.

Caffeine (*Off.*). *Syn.*—CAFFEIA, THEINA, GUARANINA.

Dose.—½ to 5 grains or more—as much as 18 grains being recommended—given in solution, or in pills with glycerine of tragacanth.

A crystalline principle usually obtained from the dried leaves of *Camellia thea*, or dried (?) coffee-seeds—*Coffea Arabica;* also contained in guarana (p. 204), maté,—the leaves of *Ilex Paraguayensis*—and kola nuts—the seeds of *Sterculia acuminata*, growing in Western Africa; it is identical with Theine and Guaranine. Caffeine and Theobromine (see p. 356) can be prepared from Xanthine (the latter being di- and Caffeine tri-methyl-xanthine) and indirectly from guano, as Xanthine may be obtained as a derivative of Guanine contained in guano. Caffeine is in slender needles like white silk, is soluble 1 in 100 of water, 1 in 25 of rectified spirit; is insoluble in absolute alcohol, but soluble in ether; acids render it more soluble in water, but it is a feeble base, and on concentrating the solution of the salts they are apt to split up, and the caffeine crystallizes out by itself. It has a bitter, not agreeable taste. It stimulates the heart and raises arterial tension. In excessive doses it causes rise of temperature, convulsions, and paralysis. It is given for hemicrania. Locally, to the eye, it dilates the pupil.

Tea contains on an average 4 to 4½ per cent. of Caffeine; raw coffee about 1·2 per cent., and when roasted about 1·3 per cent.—P.J. 1887,417,565.

Caffeinæ Citras (*Off.*).

Dose.—½ to 5 grains or more.

Is directed to be prepared by dissolving caffeine 1 and citric acid 1 in distilled water 2, evaporating to dryness on a water bath, stirring constantly towards the end of the operation, and reducing to a fine powder.

This Citrate was formerly met with in opaque white needle-like crystals or masses of crystals; it was a doubtful salt.

Granular Effervescent Citrate of Caffeine is prepared, containing a grain in a teaspoonful, and

Granular Effervescent Citrate of Caffeine, with Bromide of Potassium, has in addition 2 grains of the latter salt to the drachm.

Caffeinæ Ammonio-Citras. *Dose*.—1 to 10 grains. A minutely crystalline white powder, slightly soluble in water.

Caffeinæ Hydrobromas.

Dose.—½ to 5 grains or more.

In short acicular crystals, shorter than the citrate.

Granular Effervescent Hydrobromate of Caffeine is prepared, containing a grain in a teaspoonful.

Caffeinæ Sodio-Salicylas.

Dose.—1 to 4 grains hypodermically.

A white amorphous powder, containing 62·5 per cent. of caffeine, and soluble 1 in 2 of water. This salt and the corresponding cinnamate and benzoate are preferred in Berlin; they act like digitalis, but more rapidly.—Edin. Med. Jour., 1884,390.

Caffeine is very soluble in aqueous solutions of benzoate, cinnamate, and salicylate of sodium. These dissolve it in chemically equivalent quantities. The following salicylate of sodium solution of it forms an unirritating hypodermic injection.

Injectio Caffeinæ Hypodermica.

Caffeine	.	20 grains.
Salicylate of Sodium	...	17½ grains.
Distilled Water to	.	1 drachm.

Dose.—1 to 6 minims, contains 1 grain in 3 minims. Particularly recommended for alcoholic and morphine intoxication, also for hemicrania. Use in Eucalyptus poisoning.—B.M.J. i./88,819.

Hypodermic Discs are prepared, containing ½ grain Caffeine in each.

Caffeinæ Sulphas. *Dose.*—½ to 5 grains or more. A minutely crystalline white powder, soluble about 1 in 40 of water.

It is a tonic and stimulant; it has the effect of quinine with wine, with this advantage, that it is followed by no depression.—M.T.G. i./75,185.

Caffeinæ Valerianas. *Dose.*—½ to 3 grains.

In irregular crystals or powder, having the odour of valerian.

References.

On dogs, half a grain injected hypodermically raised the temperature. Artificial respiration removes the tendency to death from an overdose.—M.R. 1876,301.

It has an opposite effect to quinine on the temperature. Large doses raise it.—M.T.G. ii. 78,604.

Antagonism between caffeine, theine, guaranine cocaine, as well as tea and coffee, and morphine and opium.—B.M.J. ii./74,615,674,697,771.

Useful in cardiac disease, especially where dropsy is a marked symptom. Is apt to induce insomnia. Large doses are required. It is better borne than digitalis.—L. ii./82,909; i./83,909; B.M.J. i./80,443.

In epileptic vertigo, after 1 to 3-grain doses three times a day, attacks cease.—Pr. xxx.105.

Theine, caffeine, and guaranine are chemically and physiologically identical. Excessive doses produce in animals paralysis of sensibility, tetanic spasm, and convulsions.—R.

A stomachic tonic, lessens tissue change, and waste. Has been given in cases of diarrhœa, phthisis, and neuralgia.—B.

Useful in unilateral headaches in doses varying from 1½ grain to 18 grains.—Binz.

Is a diuretic, and relieves cardiac dropsy in cases where a feeble, dilated, and irregularly contracting heart is undergoing progressive mural decay. Dose, 3 to 6 grains.—P. xxii.23.

Combined with paraldehyde, for diuretic uses in heart disease.—C. and D., 1887,242

Mitral obstructive disease relieved by caffeine combined with convallaria.—L. ii./87,202.

Poisonous effects of 18 grains of caffeine citrate relieved by atropine and whiskey — P.M.J. Jan. 1886,37.

A grain and a half of the valerianate three times a day checks nervous vomiting in hysteria. It increases appetite and nerve power. Is useful for pertussis.—M.R. 75,295.

Hydrobromate of caffeine is a diuretic, used hypodermically, and the citrate gives great relief in cardiac dropsy.—M.T.G. ii./77,662.

Is tonic and restorative to the nervous system, specially the sympathetic nervous system, may be given to relieve a palpitating adynamic heart, without fear of disturbing heart or vessels. One grain doses given for hemicrania and neuralgia. An ordinary cup of tea probably contains $\frac{1}{10}$ grain of Caffeine. With the addition of oxygen and the elements of water, Caffeine can yield taurine, about 2 grains giving to one ounce of bile the nitrogen it contains in the form of taurine.—M.T.G. ii./81,33.

1 to 5 grains in a cup of coffee relieve bronchial asthma.—L. i./79,220.

Caffeine acts on the heart in large doses like digitalis, but is apt to produce insomnia and nervousness.—L. ii./82,909; Pr. xxxiii.218; Pr. xxxiv.139.

Poisoning by 60 grains of citrate caused burning in throat, giddiness, violent vomiting, purging and diuresis, tremors of extremities, pain in stomach and bowels, and great thirst. Recovery: treated with nitro-glycerine, &c.—L. i./83,680.

Filehne's latest researches on caffeine and its congeners. —Th. Gaz., 1886,628.

Calamina Præparata (*Off.*).—See p. 238.

CALCII CHLORIDUM.

Chloride of Calcium (*Off.*).

Dose.—10 to 20 grains in aqueous solution, or it is more palatable made into pills with syrup; these must be kept in bottles.

According to the pharmacopœia chloride of calcium, anhydrous and most convenient for use in medicine, is in fused white agglutinated masses, dry, but very deliquescent. The porous dried chloride is better adapted for chemical purposes for absorbing water. Crystals of chloride of calcium are very deliquescent and unmanageable, as they dissolve in one-fourth their weight of water. Chloride of calcium is given in tubercular disease and glandular affections. It is not astringent. It has been recommended as a disinfectant.

Liquor Calcii Chloridi (*Off.*).

Dose.—15 to 50 minims; is 1 to 5 of distilled water.

Chorea, eight cases in children, cured by doses of 7 to 15 grains daily.—M.T.G. ii./75,663.

In tubercular diseases, phthisis and all wasting diseases of children, has great power in controlling. For adults, 30 grains three times a day.—L. ii./77,275.

It is said to check the growth of uterine fibroids, some think it tends to cure them by aiding a process of calcareous degeneration.—L. ii./73,1.

In sarcinæ, the vomiting is checked by 30 to 60-grain doses.—M T.G. i./60,401.

In scrofula, is a valuable general tonic, slows and strengthens the pulse; best given to children in milk, after food.—Pr. xxxiv.161.

Essay on this drug.—P.M.J.Dec.1885,499.

CALENDULA.

Marigold.

From the fresh leaves and flowers of this plant, *Calendula officinalis*, a Tincture is prepared equal in strength to 1 of the dried drug in 10 of equal parts rectified spirit and water. 1 of dried flowers in 5 S.V.T. is sometimes used.

A lotion prepared from the tincture diluted, or an ointment prepared from tincture 1 part, and spermaceti or simple ointment 9 parts, is said to have a beneficial influence over wounds, especially incised wounds. It promotes cicatrization, with but little suppuration.

One minim of tincture with boric acid 2 to 4 grains is a useful insufflation in otorrhœa.—Pr. xxx.366.

CALX SULPHURATA.

Sulphurated Lime (*Off.*). *Syn.* — CALCII ULPHIDUM; SULPHIDE OF CALCIUM; CANTON'S HOSPHORUS.

Some forms of it after being heated shine in the dark and are used to make luminous paint.

Dose.—$\frac{1}{10}$ to 1 grain in a pill.

A mixture containing not less than 50 per cent. of true Monosulphide of Calcium. It is directed to be prepared by deoxidizing Sulphate of Calcium, by mixing it with wood charcoal and heating the mixture in a crucible until the black colour disappears. The residue when powdered has a dirty white colour and slight sulphuretted odour; it is but sparingly soluble in water, which solution quickly decomposes, evolving sulphuretted hydrogen. In thus liberating this gas, sulphide of calcium possesses properties allied to the sulphurous springs of Harrogate, Barèges, Gilsland, &c. It is found very useful administered for boils, carbuncles, acne, scrofulous sores, especially in glands of the neck, by hastening maturation and preventing formation of fresh boils, &c. For boils, &c., $\frac{1}{10}$ grain is given every hour. For suppurating glands in the neck, $\frac{1}{2}$ to 1 grain every two hours, continued for weeks, is very beneficial.—R.

Pilula Calcis Sulphuratæ, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and 1 grain.

These pills are best prepared by triturating the sulphurated lime with sugar of milk, adding glycerine of tragacanth *q.s.*, rolling into pilules and coating with sandarach solution. Keep in bottles.

Dose.—1 every hour, or every 2, 4, or 6 hours as above, according to the state of the disease, whether acute or not.

On the addition of a dilute acid to sulphurated lime mixed with water, it gradually evolves sulphuretted hydrogen, and may be made use of for producing artificial sulphurous waters. The following imitates Aix-les-Bains water. Temperature 108° F.

Aix-les-Bains Water (Artificial).

Sulphate of Sodium	...	2 grains.
Sulphate of Magnesium	...	1 grain.
Sulphate of Aluminium	...	$1\frac{1}{2}$ grains.
Chloride of Sodium	...	$\frac{1}{2}$ grain.
Carbonate of Calcium, precipitated	...	2 grains.
Sulphurated Lime ...	...	3 grains.
Diluted Hydrochloric Acid		10 minims.
Water 108° F. ...	...	32 ounces.

Used for douching, baths, &c.

References.

Cases of acne of the face cured by $\frac{1}{4}$ to $\frac{1}{2}$ and 1 grain doses 3 to 6 times a day.—L. ii./78,215.

Useful in boils and skin affections, also in diphtheria d croup—the false membrane is detached and expelled. i /82,296.

In cancer of the breast 3 cases, after operations and 3 or 4 months' treatment by grain doses of the sulphide, recovery was rapid.—L. ii /82,832.

In strumous ophthalmia, 5 cases, doses of $\frac{1}{10}$ to $\frac{1}{4}$ grain effected cures.—Pr. xxviii.17.

In periostitis and alveolar abscesses found of great service.—Stocken's Dental Mat. Med., 2nd ed., 143.

Usual dose is too small for boils: give 1 grain three times a day, increased to 8 grains daily.—L. i./85,64.

Endemic elephantiasis of Ceylon, worth a trial for. B.M.J.ii./87,1402.

Suggested use in diabetes.—L. i /88,868

Lotio Calcii Sulphurati, U.C.H.

Slaked Lime	4 ounces.
Sublimed Sulphur	4 ounces.
Distilled Water	36 ounces.

Boil together, evaporate, and filter, to produce 1 pint of lution. This should be diluted with an equal quantity warm water for painting over the patient, who ought eviously to have had a bath, as a remedy for itch, which it will cure in half an hour. It holds in solution pentasulphide of calcium with some oxysulphide, and resembles in composition **Vlemingkx' Solution.**

Sulphurated Lime Depilatory.

Is a thick milk of lime charged with sulphuretted hydrogen. A less unpleasant, but equally efficacious, application is

Sulphide of Barium Depilatory.

Sulphide of Barium, in fine powder	1 part
(Or less or more, up to 3 parts, if ordered).	
Starch Powder	3 parts.

Make into a cream with water. When required for se, spread it on the part and let it remain five or ten inutes, then remove with a blunt knife. N.B.—It mporarily reddens the skin.

yrupus Sulphatum (H. P. Symonds).

Dose.—½ an ounce. Sulphate of Berberine, 1 grain; Sulphate of Quinine, 2½ grains, Sulphate of Iron, 2½ grains; Sulphate of Potassium, 8 grains; Sulphate of Sodium, 8 grains; Diluted Sulphuric Acid, 5 minims; Glycerine, 12 minims; Distilled Water, 48 minims. Dissolve, and add Syrup to ½ ounce. Filter. Add to each pint, Chloroform 10 minims, mixed with 20 minims of Spirit.

Is useful for boils, &c. The sulphates give off some sulphuretted hydrogen, and the bases act as tonics.

CAMPHORA.

Camphor (*Off.*).

Dose.—1 to 10 grains in a pill, or alcoholic solution dropped on sugar or in water, or as camphor water. Camphor, besides being sold in bells, is now prepared in rectangular blocks, as well as in a sublimed powder, **Flowers of Camphor.** The latter is a very convenient form for making pharmaceutical preparations.*

Camphor is soluble in water, 1 in 1,300 (more is dissolved if kept slightly warm), in rectified spirit 1 in 1¼ (more soluble in absolute alcohol), freely soluble in ether, chloroform, volatile and fixed oils. Camphor, when mixed in certain proportions with many crystalline substances, causes mutual liquefaction of the two—*e.g.*, camphor 4, phenol 12, and water 1 (see Acidum Carbolicum); camphor 1, and chloral hydrate 1 (see Chloral Hydras); camphor 2 and menthol 3 (see Menthol); camphor 1 and thymol 1 (see Thymol); camphor and butyl-chloral hydrate liquefy when heated, but solidify on cooling; so will camphor 84 and salicylic acid 65 (see Camphora Salicylata). Camphor is powdered by rubbing with a few drops of spirit. Besides the official preparations, camphor water† (camphor mixture) 1 in 1,000 to 1,300, liniment 1 to 4, compound liniment 1 to 8, spirit 1 to 9, and compound tincture 1 in 240, the following are in use:—

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* Lately, much ESSENTIAL OIL OF CAMPHOR has been imported from Japan; it is generally of a pale straw-colour but varies from water-white in all shades to deep black. Ha Sp. Gr. 0·898 to 0·990. It is a bye-product obtained in the production of camphor. It consists principally [illegible] terpene, with about 1 in 4, or a variable quantity, of the stearoptene, camphor in solution. It has a persistent odour, like that of camphor and sassafras or cinnamon. Similar productions have at times come from Formosa and Borneo. They are used by the Chinese as rubefacients [illegible] in rheumatism, and may prove useful as antiseptics.—P.J. [illegible] 1885,302; 1887,266.

† Aqua Camphoræ is [illegible] uncertain in strength. The water dissolves much more of the camphor if kept in a slightly warm place. A definite quantity of camphor, dissolved in

Camphor Ball.

Spermaceti, cut small	...	4 ounces.
White Wax ,,	...	12 ounces.
Oil of Almonds ...	...	5 ounces.

Melt in a water bath, and add

Flowers of camphor	...	4 ounces.

Dissolve, and when nearly cold pour into boxes or mould in gallipots. Useful for chapped skin.

Camphora Monobromata.—See p. 104.

Camphora Salicylata.—See p. 105.

Camphorated Chalk.

Flowers of Camphor	... ...	1
Precipitated Carbonate of Calcium		7

Mix in a mortar, adding a few drops of rectified spirit, and sift for use as a dentifrice.

Carbolate of Camphor.—See p. 27.

Elixir Camphoræ.

Dose.—½ to 1 drachm.

Spirit of Camphor	...	10 drachms.
Syrup	...	5 drachms.
Distilled Water . .	...	1 drachm.

Mix. Contains 4 grains of camphor in 1 drachm. It mixes and diffuses well in water.

Flowers of Camphor.—See p. 102.

Pilula Camphoræ.

The most suitable excipient to form camphor into pills is about ⅓ its weight of powdered curd soap and a few drops of proof spirit, or a little lard in a warm mortar.

Pilules and lozenges of camphor are prepared by confectioners, of uncertain strength.

Spiritus Camphoræ Fortior.

Syn.—Rubini's Solution of Camphor.

Dose for Diarrhœa.—2 to 5 drops on sugar every

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a small but certain quantity of spirit, and this added to a measured quantity of water, would make a more uniform preparation. It is rendered more soluble in water by the presence of carbonic acid, acid carbonate and carbonate of magnesium, sugar, and myrrh, and less soluble by bromide of potassium, liquor potassæ, sulphate of magnesium, alkaline carbonates, and many other salts.

5, 10, or 15 minutes, according to the severity of the symptoms.

Flowers of Camphor... ...	1 ounce.
Absolute Alcohol (by weight)	1 ounce.

Dissolve. Produces slightly over 2 fluid ounces, and contains nearly 1 grain in 2 minims.

CAMPHORA MONOBROMATA.

Monobromated Camphor.

Syn.—MONOBROMIDE OF CAMPHOR.

Dose.—2 to 10 grains in pills, with ⅓ of its weight of curd soap and proof spirit *q.s.*

A substitution compound in which one atom of hydrogen in camphor is replaced by bromine. In colourless prisms, soluble in ether, alcohol, and fixed oils, insoluble in water. It has a slight odour of camphor and a turpentine-like taste. It is used as a hypnotic; large doses produce clonic convulsions and muscular trembling.

Perles are prepared containing about 2 grains in each. The following is also recommended, but it is strongly alcoholic and very nauseous:—

Elixir Camphoræ Monobromatæ.

Monobromated Camphor ...	20 grains.
Spirit of Cinnamon (1 in 50)	15 drachms.
Dissolve and add	
Red Elixir...	20 drachms.
Syrup *q.s.* to	5 ounces.

Dose.—½ an ounce (contains 2 grains).

References.

Experiments on animals. It lowers circulation, respiration, and temperature.—Pr. xiii.113.

Not suitable for asylum practice, on account of its comparative insolubility in any but irritating media.—Pr. xiii.324.

Physiological experiments on rabbits and therapeutic uses. Has risks of gastric irritation given by mouth, and cutaneous inflammation used hypodermically.—Pr. xiv.262.

Results of its use in Paris favourable as a hypnotic in nervous diseases.—L. ii.75,215.

In delirium tremens 7-grain doses often repeated is recommended, also in insomnia, chorea, and hysteria.—B.F.M.Ch.R. lviii.459.

In whooping-cough of children, 5-grain doses serviceable, and useful in asthma.—B.

Used in epilepsy, without good results.—L. i./80,553; B.M.J. i./80,548.

Lowers temperature and produces sleep, of use in delirium tremens, convulsions of teething, and hysterical wakefulness.—L. ii./76,698.

CAMPHORA SALICYLATA.
Salicylated Camphor.

Syn.—SALICYLATE OF CAMPHOR.

Dose.—1 to 5 grains, in a pill, with a sixth of its weight of suet or lard.

Prepared by heating together carefully 84 parts of camphor and 65 parts of salicylic acid, until a liquid homogeneous solution is formed, which becomes a crystalline mass on cooling. This again becomes unctuous when pounded, and liquefies when rubbed on the skin. It may be obtained in definite crystals from a benzol solution. It is slightly soluble in water and glycerine, about 1 in 20 of fats and oils, and is decomposed by hot alkaline solutions. By boiling with water it hydrates into an oily liquid. Applied as an ointment, it was found useful in lupus and rodent ulcers.—P.J. 1881,438, *ex* Annali di Chimica, lxxiii.193.

May prove serviceable in some forms of diarrhœa and to form antiseptic dressings.

Salicylated Camphor Wool.

Cotton wool impregnated with 8 per cent. of salicylated camphor, for antiseptic wound dressing.

CANNABIS INDICA.
Indian Hemp (*Off.*).

Extractum Cannabis Indicæ (*Off.*).

Dose.—¼ to 1 grain.

Is an alcoholic extract, of which 1 dissolved in 20 of rectified spirit forms

Tinctura Cannabis Indicæ (*Off.*).

Dose.—5 to 20 minims, suspended in some mucilaginous fluid.

Cannabin Tannas, Cannabin Tannate.

Dose.—2 to 10 grains, increased to 20, 4 grains being an average dose, taken an hour before bedtime, in a pill with glycerine of tragacanth or in solution of sal volatile and water.

A yellowish brown powder, prepared from *Cannabis Indica.* Tastes like tannin, has a not unpleasant smell, is insoluble in water and ether, slightly soluble in alcohol, and dissolves easily in water made slightly alkaline. It is stated to be free from the two volatile oils contained in *Cannabis Indica,* which are rapidly-acting irritating poisons. It does not produce intoxication, and is said to be a useful hypnotic, that, unlike opium and morphine, it rarely or never deranges the digestive and secretory organs, bowels, &c., and is specially valuable in nervous sleeplessness and in acute mania; 8-grain doses produce calm and quiet sleep.

In insomnia good effects were produced in 37 out of 63 cases, moderately good in 15. The patients awoke with no toxic after-effects.—Pr. xxix.377; M.P.C. ii./82,268; M.R. 1882,453.

Cannabis is useful for chordee and asthma, and as an aphrodisiac.

It is *the* remedy for menorrhagia.—B.M.J. i./83,1002.

For dull continuous headache, the extract is very useful, in doses of ⅓ to ½ grain.—B.M.J. ii./87,97.

Valuable alike for anorexia, insomnia, and diarrhœa — Pr. xl.95.

A report on the various preparations of cannabis.—B.M.J. ii./87,266.

Very useful in dyspepsia, diarrhœa, and summer cholera.— Pr. xxxix.8; L. ii./87,536.

Cannabinon. *Dose.*—¼ to 1 grain.

A purified resin, dark brown in colour, and of the consistence of treacle. Has also been used as a sedative in doses to relieve mania, hysteria, and sleeplessness, and is said to be more certain and powerful than the tannate of cannabin. For dispensing purposes, a dilution is made of 1 to 9 of sugar of milk.

On haschisch pure and cannabinon, use; contra-indicated when heart disease exists.—L. i./87,542.

CANTHARIS.

Cantharides (*Off.*).

Syn.—LYTTA; SPANISH OR BLISTERING FLY.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ a grain in a pill. Better given as tincture.

Of this, the dried insect—*Cantharis vesicatoria*,—there are the following preparations official:—Acetum, 1 in 10; emplastrum, 1 in 3; tinctura, 1 in 80; unguentum, 1 in 7; charta epispastica; liquor epispasticus, 1 in 4 (p. 108); and emplastrum calefaciens, 1 in 25. The medicinal properties of cantharides are due to a neutral crystalline principle

Cantharidin, in flat glistening rectangular prisms, which melt at 200° C., and volatilize in very irritating white fumes. It is soluble 1 in 84 of chloroform, about 1 in 100 of acetic ether. Soluble also in ether, benzol, glacial acetic acid, fats and oils, 1 in 3,300 of alcohol, insoluble in water. Solutions of Cantharidin, as well as other preparations of cantharides, are employed for stimulating the growth of the hair, in alopecia, and preventing its falling off, as in the following preparation:—

Linimentum Crinale (Squire).

Cantharidin	1 grain.
Acetic ether	2 drachms.

Dissolve with a gentle heat, and add

Rectified Spirit	3 ounces.
Castor Oil...	1 ounce.
Oil of Lavender	15 minims.

"It produced successful vesication of every portion of the scalp to which it was applied."—L. ii./79,713. It is, therefore, too strong to be used freely. It is better to dilute it with an equal quantity of spirit, and the head should be washed after applying it a few times, to prevent the cantharidin accumulating.

References to Cantharidin.

Effects of poisoning by, on kidney and bladder.—L i./80,261; Pr. xxv.53.

Anodyne Vesicant. Camphor 20, Hydrate of Chloral 30, place in a bottle, liquefy by heat of water bath, and add Cantharides 10. Digest at 140° to 160° F. one hour, and strain with pressure.

Collodium Vesicans (*Off.*).

Blistering Liquid	20 ounces.
Pyroxylin	1 ounce.

Dissolve. It evaporates quickly, and its action is confined to the part on which it is painted. It is specially useful to apply to the temple or behind the ear, or other parts of the body where the following preparation would not locate itself. It is now made too viscid; half the quantity of pyroxylin is generally sufficient.

Liquor Epispasticus, Blistering Liquid* (*Off.*).

Cantharides in powder ...	5 ounces.
Acetic Ether	*q.s.*

Pack the cantharides in a percolator and moisten with 3 ounces of the ether. After 24 hours, add more acetic ether, and continue the percolation slowly, till one pint of percolate is obtained.

In addition to the official Emplastrum Cantharidis a plaster is made in rubber combination, which is convenient for surgeons' use, as it keeps well and merely requires the surface oiling before applying; it contains a little camphor, which is said to prevent strangury.

CAPSICI FRUCTUS.

Capsicum Fruit.

Dose in powder.—$\frac{1}{2}$ to one grain, in a pill.

From this, the well-known fruit of *Capsicum fastigiatum*, a crystalline principle, **Capsaicin**, possessing great power, has been obtained by Dr. Thresh.—P.J. 1877,187. It caused in $\frac{1}{25}$ grain doses violent griping pain with purgative effect. It is not in commerce.

A **Snuff**, under the name of **Pulvis Boracis Compositum**, composed of capsicum, in fine powder 15, borax 20, carbonate of ammonium 10, recommended for hay fever.—B.M.J. i./84,1230.

Capsicin.

An impure acrid oleo-resin, obtained from capsicum fruit, is sometimes in request.

Dose.—$\frac{1}{8}$ to $\frac{1}{4}$ grain in a pill.

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* This, in early editions of the EXTRA PHARMACOPŒIA, was termed PIGMENTUM EPISPASTICUM, and was about one-third stronger. The old Liquor Epispasticus, B.P., was prepared with acetic acid and ether as a menstruum.

Emplastrum Capsici.

Capsicum plasters in rubber combination are made in sheets 7 in. by 5 in., and yard rolls 7 in. wide.

Tinctura Capsici (*Off.*). *Dose.*—3 to 20 minims.

1 in 27 (nearly) of rectified spirit.

Given internally it increases the flow of saliva and gastric juice. It also increases the peristalsis of the intestine, relieves atonic dyspepsia, and is useful in dipsomania—it allays the craving for alcohol. The official tincture is too weak for external use as a rubefacient.

Concentrated Tincture of Capsicum,

1 in 3 of rectified spirit, was employed by Turnbull externally. This is too irritating generally. The writer has found the following approved of:—

Linimentum Capsici.

Capsicum Fruit in coarse powder	1¼ ounces.
Rectified Spirit	*q.s.*
Percolate to obtain	8¾ ounces.
Add Oleic Acid	9½ drachms.
Oil of Lavender	½ drachm.

Painted on the skin, or applied sprinkled on piline or lint covered with American oiled cloth, in an hour it produces a red glow; its action may be arrested by smearing the part with vaseline. Useful in chest affections, rheumatism, sciatica, &c. Does not blister or redden the skin, hence may be applied to exposed parts.

CARBONIS TETRACHLORIDUM.

Carbon Tetrachloride.

A heavy, volatile, and mobile chloroform-like liquid, has a pleasant pungent, quince-like odour if pure. Sp. Gr., 1·56. The vapour inhaled relieves hay-fever. Employed locally, sprinkled on piline or lint covered with American oiled cloth, it quickly relieves neuralgic pains. Has been used as, but is not a successful anæsthetic.

Anæsthesia rapidly produced by it, effects soon pass off; relieves pain and causes sleep.—L. i./67,574.

Chemical properties, physiological experiments, and uses for inhalation.—L. i./67,660.

Eighteen cases of its inhalation to relieve pain, and for operations and midwifery.—L. i./67,693,762.

Hay-fever, dysmenorrhœa and tic-douloureux relieved by it.—L. i./67,791.

CARMINUM.

Carmine.

A brilliant red colouring matter prepared from the cochineal insect—*Coccus Cacti*. It is insoluble in water, but entirely soluble in aqueous ammonia. It is not employed medicinally, but is much used for staining histological specimens.—See Appendix.

Glycerinum Carmini, Glycerine of Carmine.

Carmine 60 grains, Distilled Water 1 drachm, Solution of Ammonia, B.P. 80 minims; dissolve and add gradually Glycerine 6 drachms. Heat in a water bath till free from ammoniacal odour. When cold add 20 minims more of Solution of Ammonia to prevent gelatinization and Distilled Water *q.s.* to 1 ounce. Being nearly neutral it dilutes to a pure carmine colour without a purplish tint.

Liquor Carmini, Solution of Carmine.

Carmine 40 grains, distilled water *q.s.* to moisten, Strong Solution of Ammonia 40 minims; dissolve, and add Distilled Water to 1 ounce.

Used to colour various preparations for the toilet, &c.

Liquor Cocci, Liquid Cochineal.

Cochineal (not bruised), Carbonate of Potassium, of each 1 ounce; Distilled Water 8 ounces. Heat in water-bath for half an hour; gradually add Acid Tartrate of Potassium 1 ounce, stir well, continue the heat, and add Potash Alum (in powder) 1 ounce; heat five minutes more, strain through absorbent wool, and pour over contents of strainer sufficient Distilled Water to make strained product measure 8 ounces; when cold add Chloroform 15 minims.

Cascara Sagrada (*Off.*).—See p. 326.

CAULOPHYLLIN.

Dose.—1 to 4 grains in a pill, with glycerine of tragacanth.

A brown resinoid powder obtained from the root of *Caulophyllum thalictroides*—blue cohosh, pappoose, or squaw-root. It possesses diuretic, diaphoretic, and anthelmintic properties, and is used as an emmenagogue, parturient, and antispasmodic. It appears to exert a direct influence on the uterus.

Chinoidin, U.S.—See Quinoidina, p. 324.

CHLORAL HYDRAS.
Hydrate of Chloral (*Off.*).

Dose.—5 to 30 grains, in aqueous solution, or in chloroform water well diluted.

This hypnotic, produced by the action of chlorine on absolute alcohol and subsequent purification, is now well known. Its manufacture is a step short of the complete formation of chloroform. When first obtained as pure chloral it is liquid, by the addition of water to form hydrate it crystallizes. The pure detached crystals are preferred. They are soluble 3 in 1 of water—1 grain may be held in solution in one minim of aqueous solution. Freely soluble also in rectified spirit and ether, and in four volumes of chloroform, likewise soluble in oils and fats. The aqueous solution is decomposed by alkalies into chloroform, and formic acid, which combines with the alkali; should thus yield 72·2 per cent. (not less than 70 per cent. B.P.) of chloroform. Hydrate of Chloral heated first liquefies, then boils and becomes volatilized without residue. It should have, although pungent, no odour of chlorine; its aqueous solution is neutral, or nearly so. Its acrid taste is best disguised by free dilution, with addition of syrup of tolu and chloroform water; 5 grains may be made into a pill with ½ grain Canada balsam, or with a little syrup and tragacanth. As a hypnotic, it is often combined with opiates or morphine, or bromides, but it is incompatible with quinine. Its use is contra-indicated in heart affections, Bright's disease, and when the vital force is very weak. Poisonous doses are best treated after emetics, &c., with hypodermic injection of sulphate of strychnine and inhalations of nitrite of amyl. $\frac{1}{20}$ grain of picrotoxin is said to be enough antidote for 30 grains of chloral.—B.M.J. i./75, 506; L. ii./238.

It is useful as an antidote to poisoning by strychnine, and as a remedy for tetanus. A solution of chloral possesses powerful antiseptic properties.

Tetanus, recovery from, under large doses of chloral; 6 ounces were given.—L. ii./84,272.

As a vesicant, oil the skin, place some crystals on plaster, warm them until they melt, and apply.—Ed.M.J. March, 1887, 846.

Preparations.

Chloral cum Camphora, B.P.C. (Pigmentum Chloral et Camphoræ, T.H.)

Flowers of Camphor,
Hydrate of Chloral, of each 1 ounce.

Rub together in a warm mortar until completely liquid and filter. It remains permanently liquid at ordinary temperatures, and forms a valuable application painted on painful parts in neuralgia and rheumatism. It mixes freely in alcohol, ether, oils, and fats, but not with water or glycerine: the camphor is precipitated on its addition to these. The compound (Chloral and Camphor) dissolves the alkaloids atropine, morphine, and veratrine to the extent of 1 in 30 or more, but their salts are less soluble in it. Liquefactions of a similar kind take place on mixing and gently heating respectively

Menthol 1, Chloral Hydrate 1.
Phenol 3, Chloral Hydrate 1.
Thymol 1, Chloral Hydrate 1.

Quinine salts and chloral hydrate also form liquid combinations.

Suppository of Chloral.

Hydrate of Chloral...	...	5 grains.
Oil of Theobroma ...	...	10 grains.

Pound together and press into the mould. Heat must not be applied, else the mixture will not set firm. It is useful in infantile convulsions, where nothing can be administered by the mouth. It should be forcibly retained for a few minutes with the finger, if necessary.

Syrupus Chloral.

Hydrate of Chloral...	...	80 grains.
Distilled water ...	...	1½ drachms.

Dissolve and add

Syrup *q.s.* to ...	...	1 ounce.

Dose.—½ to 2 drachms.

Bromidia. *Dose.*—½ to 1 drachm.

An American nostrum, each drachm of which is said to contain 15 grains respectively of chloral and bromide of potassium, with extract of cannabis indica and alcoholic extract of henbane, ⅛ grain of each.

Sulphonal. *Dose.*—15 to 30 grains. In cachets or suspended in water with mucilage.

Syn.—Diethyl-sulphon-dimethyl-methane. Produced by oxidation of a mixture of ethyl-mercaptan and acetone. Is in white tabular crystals, tasteless and odourless, soluble 1 in 500 of water, freely soluble in alcohol and ether. Melts at 125·5° C.

Is a soporific, does not affect digestion, pulse, or temperature; efficacious in sleeplessness of nervous subjects.—B.M.J.i./88,864; another opinion, 1113.

CHLOROFORMUM.

Chloroform (*Off.*).

Syn.—Terchloride of Formyl.

Dose.—1 to 10 minims, suspended in equal parts of mucilage and water, or in a perle. Small doses may be given as chloroform water or spirit of chloroform.

This well-known anæsthetic is soluble in all proportions in absolute alcohol, pure ether, fixed and volatile oils, and 1 in 200 of water. It does not mix with glycerine. It is a solvent for mastic and most resins, many alkaloids, iodine, bromine, and of phosphorus and sulphur sparingly. It also dissolves gutta-percha and india-rubber. It acts on india-rubber even when vulcanized.

Commercial Varieties.

Chloroform from rectified spirit.

Chloroform from methylated spirit (*purified*).

Chloroform from methylated spirit (*commercial*).

If the Chloroform from methylated spirit be carefully purified, it is indistinguishable by chemical or other means from that prepared from pure spirit, and is equally safe and efficient as an anæsthetic, but this is not the case with the commercial variety. Chloroform, according to the Pharmacopœia, has Sp. Gr. 1·497, and contains 1 per cent. by weight of absolute alcohol, which prevents its decomposition (only one-quarter per cent. is required to produce above specific gravity). Absolute Chloroform has Sp. Gr. 1·5; it quickly decomposes, especially on exposure to sunlight, and liberates chlorine; the addition of one-thousandth part by weight of absolute alcohol is sufficient to check this change. Chloroform should be carefully excluded from sunlight. Owing to the alcohol it contains, it is slightly coloured by agitation with sulphuric acid, but leaves no residue or unpleasant odour after evaporation,—a good and simple test. Permanganate of potassium solution, rendered alkaline with caustic potash, has been suggested, both as a test and as a purifier of Chloroform. Commercial Chloroform, when shaken with a little of this solution, quickly turns green; but this has been shown to be due principally to the alcohol added as a preservative. Absolute Chloroform does not change the violet colour of the test.—P.J. 1882,711,740,760,769, 784; L. i./82,355; B.M.J. i./82,62,331. A Chloroform prepared from chloral has been recommended as being extra pure, but is not superior to that made direct from alcohol.

Although the most generally-used of anæsthetics, it has of late fallen into disfavour, ether and dichloride of ethidene having somewhat supplanted it. It is agreeable to the patient, rapid in its action, produces complete insensibility, and there is an absence of excitement and movements during the operation, such as is produced by ether; but Chloroform has a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind, and Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded or even stopped.—B.M.J. ii./80,970.

Antidotes and References.

In syncope from Chloroform inhalation, 3 drops of nitrite of amyl (a capsule is convenient) restores respiration and circulation, with flushed face and return of sensibility when the pulse or breathing becomes defective, with lips blue, &c.—L. i./75,644.

Atropine injected hypodermically is suggested as an antidote to the cardio-inhibitory effects of Chloroform.—B.J. ii./80,620,715,761.

Professor Von Nussbaum and Professor Claude Bernard have shown that mixed narcotism and anæsthesia reduce the quantity of Chloroform necessary to produce anæsthesia; if $\frac{1}{6}$ to $\frac{1}{4}$ grain of morphine be injected hypodermically before the Chloroform is administered, less Chloroform is needed, the insensibility is more profound, and the danger attending its use is lessened. Of importance in hot climates, where the low boiling-point of ether prevents its being used.—Pr. xxv.401; L. ii./82,1031.

Sudden application of large cloth dipped in boiling water to cardiac region in threatened death through yncope from chloroform anæsthesia, was successful in estoring.—L. i./81,1015.

Vegetable and animal infusions and decoctions can be reserved indefinitely by the addition of 1 minim of Chloroform to the ounce of liquid, if vessels containing it be well closed. Better to mix the Chloroform with double its volume of rectified spirit before adding it to the fluid to be preserved.—L. ii./81,694; Pharm. Jour. 1874,441.

Resuscitation from Chloroform syncope by inversion of the body, certainly saved patient.—B.M.J. i./81,559.

Statistics of and correspondence on the recent deaths from.—B.M.J. i./82,247,287; L. ii./86,901,954.

Is a strong poison to the ventricle of the frog's heart. Solution of ammonia antagonises its paralyzing action.—Pr. xxvi.437.

Recovery from drinking an ounce, treatment by digitalis and strychnine.—Ed. M.J., Dec. 1887,523.

In 1882 statistics with particulars of 23 deaths from Chloroform, 4 from ether and 1 from Chloroform and ether.—B.M.J. i./83,353; statistics of 1883, B.M.J. i./84,351; of 1884, B.M.J. i./85,887.

Anæsthetic Preparations of Chloroform.

Capsules of Chloroform.

Encased in cotton wool and silk; contain 10 minims in each. Are convenient for use in asthma, &c.; may be fractured and used by the patient while in bed.

Chloroform combined with alcohol or Eau-de-Cologne, as well as Chloroform and ether mixed in various proportions, have been used as anæsthetics. Generally one volume of Chloroform is added to two volumes of ether for this purpose. A mixture also which received the approval of the committee of the Medico-Chirurgical Society is known and prepared as follows:—

A.C.E.

Alcohol, Sp. Gr. 0·838 ...	1 volume.
Chloroform, Sp. Gr. 1·497 ...	2 „
Ether, Sp. Gr. 0·735 ...	3 „

The writer has been in the habit of preparing it from the more definite ingredients—viz.:—

Absolute Alcohol, Sp. Gr. 0·795	1	volume.
Chloroform, Sp. Gr. ...1·498	2	„
Pure Ether, Sp. Gr. ...0·720	3	„

The mixture has Sp. Gr. 1·01.

The three ingredients are intended to be mixed in such proportions that, when the quantities of each taken separately are exposed to the air in watch glasses, they shall completely evaporate in the same time. It is held they will, from this mixture, evaporate uniformly.

A.C.E. is as effective as pure Chloroform, and a safer agent when deep and prolonged anæsthesia is to be produced, while at the same time it is sufficiently rapid in its operation to be convenient for general use, although it takes a longer time than Chloroform (10 to 15 minutes) to procure anæsthesia.—Medico-Chirurgical Transactions, xlvii.341,343.

This mixture is of great service in midwifery, where complete anæsthesia is not required.

Safer than Chloroform and quicker than ether.—L. i./79,788.

Recommended for use as safe.—L. i/82,328.

In Vienna, the writer was informed, a modification of this consisting of Alcohol 3, Ether 3, and Chloroform 10, all by weight, is always used at the General Hospital.

Is the best anæsthetic for general use.—B.M.J., ii./87, 1078,1359.

Death of an habitual inhaler and drinker of chloroform.—B.M.J. i./88,1021.

Chloramyl. Chloroform 1 pound; Nitrite of Amyl 2 drachms.

Is not much in use. It is said to possess all the advantages of Chloroform without its dangers. Both the heart's action and respiration are kept up thoroughly throughout the anæsthesia, and this is quickly produced.—B.M.J. i./79,640.

General Preparations of Chloroform.

Internally Chloroform is an antispasmodic and sedative. On account of its agreeable taste it is often added to nauseous medicines, in the form of Spirit of Chloroform, to disguise their taste. Chloroform also acts as an antiseptic, and checks the development of fungoid growths in vegetable infusions and fruits.—P.J., 1887; 815. Externally it produces a local anæsthesia, and is added to liniments to aid their absorption and to allay pain in neuralgia. It is a curious, and little-known fact that considerable doses of pure chloroform may be taken into the stomach, without causing death by poison; for recovery after drinking an ounce, see Ed. M.J. Dec. 1887, 523; a tablespoonful not dangerous. —B.M.J. i./86,786; Th. Gaz. Jan. 1886.

Aqua Chloroformi (*Off.*).—1 in 200 of water. *Dose.*—½ to 2 ounces.

Chloroformum Camphoratum.

Camphor	2 ounces.
Chloroform	1 ounce.

Useful for toothache, applied on cotton wool.

Liquor Chloromorphiæ, Chloromorphia Solution.

		Contains in a 10 minim dose:—
Chloroform	2 ounces.	2 minims.
Rectified Spirit	2 ounces.	2 minims.
Treacle	4 ounces.	4 grains.
Liquid Extract of Liquorice	$1\frac{1}{2}$ ounces.	$1\frac{1}{2}$ minims.
Hydrochlorate of Morphine	40 grains.	$\frac{1}{12}$ grain.
Sulphate of Atropine ...	1 grain.	$\frac{1}{480}$ grain.
Oil of Peppermint ..	8 minims.	$\frac{1}{60}$ minim.
Diluted Hydrocyanic Acid...	160 minims.	$\frac{1}{3}$ minim.
Tragacanth in powder ...	20 grains.	$\frac{1}{24}$ grain.
Distilled Water *q.s.* to ...	10 ounces.	

Rub the morphine, atropine, and tragacanth with the liquid extract of liquorice and transfer to a bottle. To the spirit add the Chloroform and oil of peppermint. Mix this gradually with the morphine solution, then add the remaining ingredients and shake well.

Dose.—5 to 20 minims. Is useful as a sedative, and more nearly resembles the secret remedy, Chlorodyne, than the official Tinctura Chloroformi et Morphinæ, and **caution** it contains 4 times as much Morphine.

Linimentum Chloroformi (*Off.*).
Chloroform, 2 ounces. Liniment of Camphor, 2 ounces.

Perles of Chloroform contain about 3 minims in each. *Dose.*—1 or 2.

Spiritus Chloroformi (*Off.*).—1 in 20, S.V.R. *Dose.*—5 to 60 minims.

Tinctura Chloroformi Composita (*Off.*).

Chloroform	2 ounces.
Rectified Spirit	8 ounces.
Compound Tincture of Cardamoms..	10 ounces.

Dose.—5 to 60 minims.

Tinctura Chloroformi et Morphinæ (*Off.*).

		Contains in a 10 minim dose:—
Chloroform	1 ounce ...	1¼ minims.
Ether	2 drachms.	⅓ minim.
Rectified Spirit ...	1 ounce.	1¼ minims.
Hydrochlorate of Morphine	8 grains.	$\frac{1}{48}$ grain.
Diluted Hydrocyanic Acid	½ ounce.	⅝ minim.
Oil of Peppermint	4 minims.	$\frac{1}{96}$ minim.
Liquid Extract of Liquorice	1 ounce.	1¼ minims.
Treacle	1 ounce.	1¼ minims.
Syrup *q.s.* to	8 ounces.	

Diffuse the morphine and oil of peppermint in the spirit, and add the chloroform and ether. Mix the extract and treacle with three ounces of syrup, add this to the above, mix, and further add the hydrocyanic acid and syrup *q.s.* to eight ounces. On standing a few days, a limpid liquid separates and floats on the remainder. In chlorodyne the colourless liquid sinks on standing, owing, as the writer thinks, to the absence of ether—this he has been unable to detect in it.

CHRYSAROBINUM.

Chrysarobin (*Off.*).

Syn.—ARAROBA POWDER; GOA POWDER; PO' DE BAHIA.

Dose.—⅛ to ½ grain.

A concretion (erroneously stated in the B.P. to be the medullary matter) obtained from the stem and branches of a leguminous tree, *Andira Araroba*, dried, powdered, and purified.

The crude substance is imported from Brazil, mixed with chips of wood, as a rough powder or in small pieces. About 80 per cent. of its weight consists of chrysarobin, or chrysophanic acid so-called, to which it owes its medicinal properties. It is at first of a light yellow colour, but turns pale brown and darkens by exposure and oxidation into *true* chrysophanic acid. It has been known and used in India under the name of Goa powder as a remedy for Indian ringworm and other skin diseases. The Portuguese settlers at Goa imported it from Brazil. In 1874 some Araroba was offered in the London drug market from Brazil, of which the writer got a sample; nothing was known of it except that it was a remedy for skin diseases. A specimen was afterwards exhibited at the Pharmaceutical Meeting in March, 1875. The writer having previously supposed the Indian drug (from information given to him by Dr. Giraud, late of Bombay) was the same as Araroba, asked about their identity.—P.J. 1875,716. This Dr. Attfield ultimately established, and also that they consisted principally of chrysophanic acid.—P.J. 1875,721. Papers on its history and uses appeared almost simultaneously by Sir Jos. Fayrer and Dr. Da Silva Lima.—M.T.G. ii./74,470; M.T.G.i /75,249. The Indian mode of using the drug was to cut a lime fruit, dip it in the powder and dab it on the affected skin. The Brazilians mixed it with vinegar, and applied it, or used an ointment, 20 to 40 grains with 10 drops of acetic acid to an ounce of lard.—M.T.G. i./75,249; P.J. 1875,723.

For the further chemical history and botanical source, *vide* P.J. 1864,345; 1875,721,801, 1877,709; 1879,775, 986; 1880,42, 814.

Chrysarobinum Purum, Pure Chrysarobin.

Syn.—RHEIN, CHRYSOPHANIC ACID (in error so called). "Commercial Chrysarobin, as purified by solvents."—B.P. *reprint*, 1887.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain or more in skin diseases; 8 to 20 grains is an emetic purge.—B.M.J. i./77,608.

For use in medicine this has almost entirely displaced the crude araroba. It is a tasteless and odourless dull orange yellow powder, but can be obtained by sublimation in bright shining yellow needles. It is contained in Rhubarb root, Dock root, and the Yellow Wall Lichen, &c., but commercially it is prepared from Araroba or Goa powder by exhausting this with hot benzol or petroleum spirit, filtering and allowing the Chrysarobin to crystallize out. It is not soluble in weak solution of potash, but by the action of a stronger solution of this alkali in contact with the air it dissolves and becomes converted into chrysophanic acid in combination with potassium, from which true chrysophanic acid may be separated by the action of a mineral acid.—P.J. 1879,896. Clinical experiments have shown that the mother-liquor from which Chrysarobin has crystallized still contains a principle more active than pure Chrysarobin.

Chrysarobin is freely soluble in hot benzol, hot chloroform, hot oil of turpentine and several volatile oils; in hot glacial acetic acid and hot glycerine about 1 in 60; olive oil, melted lard and vaseline dissolve it largely if heated, but on cooling any of these solutions much of it crystallizes out. It is insoluble in water, rectified spirit, and ether. It may be made into pills with glycerine of tragacanth.

Used externally, chrysarobin is a powerful stimulant and parasiticide in many skin affections. It has also been administered internally for psoriasis, but even in half-grain doses it purges the patients so much, that as a rule its use cannot be persevered in to produce a cure.

Unguentum Chrysarobini (*Off.*).

Chrysarobin	1
Benzoated Lard	24

Mix, heat to dissolve as much as possible, and stir till cold. Preferably, pure Chrysarobin is used. Unguentum Chrysarobini, U.S., is 1 in 10 of benzoated lard, about double the strength of the above.

Chrysarobin ointment has been used as a successful remedy in psoriasis, lupus, ringworm of the scalp, pityriasis, tinea circinata, &c. For some forms of eczema and other skin affections a milder ointment should be used 5 to 10 grains to an ounce. It is important that the drug should be dissolved in the fat. It stains the skin and hair, and a strong ointment after three days' continued use sometimes produces feverishness and irritation, accompanied by discoloration of the skin beyond the parts to which it has been applied. The stains can be removed from the skin, linen, &c., with benzol, or a weak solution of potash or chlorinated lime.

In Vienna, for psoriasis, M. Anspitz uses each day, or every two or three days, according to extent of surface affected, with soap baths intervening, a pigment composed of chloroform (by weight) 8, chrysarobin (pure) 1, dissolve and add gutta percha 1; dissolve again.—Pr. xxxiii.52; Pr. xxxiv.185; B.M.J. i./84,1006.—M.

Besnier first paints on the part a 10 to 15 per cent. solution of chrysarobin (pure) in chloroform, and covers it with the gutta percha varnish known as

Traumaticin, composed of

Gutta Percha (purified) 1, Chloroform (by weight) 9. Dissolve.

As this is about the same strength as LIQUOR GUTTA PERCHA, B.P., 1 in 8 (fluid), the writer prepares M. Auspitz's application thus:—

Pigmentum Chrysarobini.

Chrysarobin (pure)	1 ounce.
Liquor Gutta Percha, B.P....	9 fluid ounces.

Mix the liquor with the chrysarobin in a mortar, quickly transfer to a bottle, and shake well.

Plaster Mulls are spread containing 45 and 18 per cent. of **Chrysarobin** respectively.

Treatment of psoriasis by Chrysarobin and its preparations.—B.M.J. ii./76,819; i./77,510, 546; i./78,663, 866; L. ii./81,74; i./82,817; ii./82,702, 792, 935; ii./85,577; Pr. xx. 415; xxi. 444.

Occasions sometimes erythematous irritation of the skin with violet or purplish discolorations, and at times minute papules.—B.M.J. i./79,223.

Useful as ointment, 20 grains to one ounce in acne rosacea.—M.T.G. i./77,665.

Chrysarobin is a powerful local stimulant; not, however, tending towards vesication or ulceration; curative properties best shown in psoriasis; is an undoubted parasiticide, especially in ringworm of the body and tinea versicolor.—Pr. xxii.376.

Nine cases of tinea circinata cured in a week by Goa powder ointment, not so successful in tinea tonsurans.—L. i./77,124; B.M.J. i./77,199.

In ringworm, 7 grains to 1 ounce of chloroform applied thrice daily sinks in deeply.—B.M.J. ii./84, 858.

CIMICIFUGÆ RHIZOMA.

Cimicifuga (*Off.*). *Syn.*—ACTÆA.

The rhizome and rootlets of *Cimicifuga racemosa* (*Actæa racemosa*, Linn.), black snakeroot or black cohosh. Indigenous to the United States and Canada.

Cimicifugin.

The powdered resinoid substance of a yellowish brown colour obtained from black snakeroot.

Dose.—1 to 6 grains in pill with glycerine of tragacanth, as a nervine tonic and antispasmodic, given for rheumatism, chorea, amenorrhœa, and to excite contraction of the uterus.

Extractum Cimicifugæ Liquidum (*Off.*).

1 = 1 of Cimicifuga exhausted with rectified spirit.

Dose.—3 to 30 minims.

Tinctura Cimicifugæ (*Off.*).

Syn.—TINCTURA ACTÆÆ.

1 in 8 of proof spirit—about one-third weaker than our former tincture.

Dose.—15 to 60 minims, or 5 minims every hour.

Very useful in chronic rheumatism where one part of a tendon, muscle, or articulation is exquisitely painful, or where the disease is traceable to previous uterine affection; also in lumbago, sciatica, pleurodynia, and headache from fatigue.—R.; Th. Gaz. Nov. 1887, 732.

In chronic rheumatism and obscure nerve-pains, also in lumbago very valuable in dose of 30 minims twice or three times a day.—L. ii /62, 238.

CINCHONÆ CORTEX.

Cinchona Bark (*Off.*).

The following dried barks are official for the production of the salts of the Cinchona alkaloids:—Yellow Cinchona bark, obtained from *Cinchona Calisaya;* pale Cinchona bark (crown or Loxa bark), from *Cinchona officinalis;* red Cinchona bark, from *Cinchona succirubra:* the bark of *Cinchona lancifolia,* Mutis, and other species of Cinchona, that of certain species of Remijia may also be used. The only kind official for making galenical preparations is the cultivated Red Cinchona bark. See p. 124.

The sources of the principal "barks" of commerce may be tabulated as follows —

1. C. officinalis, *var.* α, Condaminea } yielding
,, ,, β, Bonplandiana } crown
,, ,, γ, crispa } bark.
II. C. succirubra (Pavon), yielding red bark.

III.	C. nitida C. micrantha C. Peruviana	yielding	grey bark.
IV.	C. Calisaya	,,	yellow bark.
V.	C. lancifolia C. cordifolia	,,	Columbian bark.
VI.	C. Pitayensis	,,	Pitayo bark.
VII.	Remijia Purdieana ,, pedunculata	,,	Cuprea bark.

The Quinine barks, as they are called, now imported from South America, are chiefly the Calisaya in quills, and those known as Cuprea barks, the produce of species of Remijia. But a much larger quantity of cultivated bark arrives, chiefly from Ceylon, the produce of *C. succirubra*, *C. officinalis*, and hybrids; the remainder comes principally from India; some of the rich Java bark, produced by *C. Calisaya, var. Ledgeriana*, comes to London, but most of it goes either to Amsterdam or Hamburg.

A quantity of "flat" Calisaya bark (so-called) continues to be imported from South America, and commands a ready sale at high prices, but according to its alkaloidal yield it is intrinsically valueless It is a spurious Calisaya; the pieces resemble the old flat variety in some respects, but do not bear the characteristic digital depressions or furrows on their outer surface.

The alkaloid Cinchonidine, although often found associated with quinine in Cinchona, is generally absent from Cuprea barks, and in some a new principle, nearly allied to quinine, has been found, named Homoquinine, or Ultraquinine, of five parts of this, two have been resolved into quinine and three into cupreine, another new alkaloid; its salt, **Sulphate of Cupreine,** is sold in light feathery crystals. An alkaloid named **Cinchonamine** has also been found in some samples. **Hydroquinine,** another cinchona alkaloid, lately discovered by Hesse, is associated with and nearly allied to quinine; it possesses similar chemical properties to the latter, but has two additional atoms of hydrogen in its molecule.

The cultivation of the Cinchona is carried on in India, in the Nilgiri Hills in the south, and near Darjeeling in the north-east, also largely in Ceylon and Java, and in Jamaica.

The species *C. succirubra* has proved to be the hardiest and most easily propagated, and, although on analysis the yield of cinchonidine and quinidine generally preponderates over that of quinine, yet the total yield—often 5 to 10 per cent.—of alkaloids from the bark of this Cinchona is very large; latterly the proportion of quinine in it has increased.

As it is thus a valuable bark for pharmaceutical purposes, it has, therefore, been made official, in place of the yellow and pale barks formerly directed to be employed in making the galenical preparations of the British Pharmacopœia, as

Cinchonæ Rubræ Cortex, Red Cinchona Bark (*Off.*).

Dose.—5 to 60 grains.

The dried bark of the stem and branches of cultivated plants of *Cinchona succirubra.*

The pharmacopœial characters do not apply to the renewed bark or to that which comes from Ceylon and is spoke-shaved off. Tested by official process, it should yield between five and six per cent. of total alkaloids, of which not less than one-half should consist of quinine and cinchonidine.

Preparations of Red Bark.

Decoctum Cinchonæ (*Off.*).—1 produces 16.

Dose.—1 to 2 ounces.

Elixir Cinchonæ.—See p. 171.

Extractum Cinchonæ Liquidum (*Off.*).

Dose.—5 to 10 minims.

Red Cinchona Bark in No. 60 powder, 20 ounces, is percolated with a mixture of distilled water 5 pints, hydrochloric acid 5 drachms, and glycerine 2½ ounces; the percolation is continued with distilled water until the bark is exhausted. The percolate is concentrated by evaporation, and adjusted in strength so that, after the addition of 12·5 per cent. of rectified spirit, it shall contain 5 grains of total alkaloids in 100 fluid grains. It thus makes an acid preparation of bark; 1 ounce equals about 1 ounce of bark. In the 1868 B.P. **Extractum Cinchonæ Flavæ Liquidum**, yellow bark, was percolated with cold distilled water *only*, the percolate concentrated to Sp. Gr. 1·2, and one-third its volume of rectified spirit added; it then had Sp. Gr. 1·1; a plain aqueous menstruum being used, it failed to exhaust the bark—even approximately.

Extractum Cinchonæ Rubræ Fluidum, U.S.

Dose.—15 to 60 minims.

One ounce=1 of bark, which is treated with a mixture of alcohol, glycerine, and water, and the percolate concentrated. This liquid extract has been much lauded in America for giving drunkards a distaste for alcohol.—B.M.J. i./80,271,681.

Infusum Cinchonæ Acidum (*Off.*).

Dose.—1 to 2 ounces.

Red bark ½ ounce in boiling distilled water 10 ounces, with aromatic sulphuric acid 1 drachm; infuse 1 hour and strain.

Mistura Ferri Aromatica (**Heberden's Ink**) (*Off.*) contains cinchona.

Dose.—1 to 2 ounces.

Tinctura Cinchonæ (*Off.*).

Red bark 1 in 5 of proof spirit.

Dose.—½ to 2 drachms.

Tinctura Cinchonæ Composita (*Off.*).

Syn.—HUXHAM'S TINCTURE OF BARK.

Has now red *vice* pale bark 1 in 10.

Dose.—½ to 2 drachms.

Vin de Quinquina au Malaga (Codex).

May be made with red bark 3 parts in 100 of Malaga wine.

Dose.—1 to 4 drachms, is readily taken by children.

Cinchonina and Sulphate.—See p. 126.

Cinchonidinæ Sulphas.—See p. 126.

Quinetum and Sulphate.—See p. 316.

Quinidinæ Sulphas.—See p. 317.

Quinina and Salts.—See p. 317.

As to the relative value of the Cinchona alkaloids, two Commissions, one in Bombay, the other in Madras, have reported that Quinine keeps its long-maintained and acknowledged supremacy. Next in value is Quinidine; then follow Cinchonidine and Cinchonine; of the last two, the former is preferable, but dearer, the latter being nauseous and liable to cause derangement to the stomach. The proper relative doses are of Quinine 8 grains, Quinidine 5 grains, and Cinchonidine and Cinchonine 7 grains each.—P.J. 1870,325a; P.J. 1872,725; P.J. 1873,396.

CINCHONIDINÆ SULPHAS.

Cinchonidine Sulphate.

Syn.—Formerly termed QUINIDINE SULPHATE, or CHINIDIN SULPHATE, by German chemists.

Dose.—1 to 10 grains.

In silky white needles, generally smaller than sulphate of quinine, obtained from some cinchona barks. Although isomeric with cinchonine, its solution is lævogyrate to polarized light, like that of quinine, but it does not, like the latter and true quinidine, produce the emerald green colour with chlorine water and ammonia. The sulphate is soluble 1 in 50 of alcohol, 1 in 100 of water, rendered more soluble in water by addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts with 1 of glycerine of tragacanth in pills. Taste, bitter.

Much less costly than quinine, and can be used with effect in doses of 1 to 5 grains as an antipyretic.—Pr. xvii.53.

In intermittent fever as much as 62 grains per diem produced marked slowing of the pulse, without any convulsive action or symptom of intoxication, which it has been said to cause.—Pr. xxiv.375.

In intermittent fever 5 or 6 grains 4 or 5 times a day is most effective.—L. ii./81,1065.

Salicylate of Cinchonidine is useful as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, &c., 5 grains every 2 hours in pills or wafer paper.—B.M.J, i./81,428.

CINCHONINA.

Cinchonine.

Dose.—1 to 10 grains.

An amorphous white powder, as met with in commerce, obtained from Cinchona barks, isomeric with cinchonidine, but solutions of its salts are dextrogyrate. Being insoluble in cold water, and requiring 2,500 of boiling water to dissolve it, it is almost tasteless, and is recommended in the following form as a tasteless febrifuge for children:—

Pulvis Cinchoninæ Compositus.

Cinchonine	12 parts.
Bicarbonate of Sodium ...	1 part.
Sugar of Milk	60 parts.

Rub to a fine powder.

Dose.—3 to 12 grains, according to age.

Cinchoninæ Hydrochloras.

Dose.—1½ to 10 grains, or more.

In white acicular crystals, very like sulphate of quinine, very soluble in water and alcohol.

Cinchoninæ Sulphas (*Off.*).

Dose.—1½ to 10 grains, or more.

In hard, colourless, short rhombic prisms, with a vitreous lustre. Soluble 1 in 54 of cold water, 1 in 12 absolute alcohol. Cinchonine salts are much the cheapest of the alkaloidal salts of Cinchona. Their nauseous, bitter taste is objectionable. They are given in doses one-third larger than quinine and for the same purposes; as prophylactics some have thought them superior to quinine. The hydrochlorate is the salt most convenient for use. May be dispensed in aqueous solution, or in pills, 5 parts with one of glycerine of tragacanth.

COAL TAR DERIVATIVES.

Solutions of Coal Tar.

An alcoholic preparation known as *Liquor Carbonis Detergens* owes its properties in part to Carbolic Acid.

As a lotion, from 1 drachm to 1 ounce to a pint of distilled water forms a yellowish milky emulsion; or, as an ointment, 1 part to from 7 to 15 of basis. Useful in prurigo and chronic scaly skin diseases.

Liquor Picis Carbonis, B.P.C.

Coal Tar prepared by heating in a shallow vessel, at 120° F. for one hour, stirring frequently, 4 oz.; Tincture of Quillaia (1 in 10 S.V.R.) 1 pint. Digest at 120° F. for two days, cool, and decant or filter.

Liquor Picis Carbonis et Ligni.

Dissolve Wood Tar 1 in 20 of above liquor.

A corresponding **Liquor Picis Ligni** may be prepared by dissolving Wood Tar 1 in 20 of above Tincture of Quillaia.

The tincture of quillaia enables these solutions to form emulsions with water. One part to 7—20 is useful for various skin affections as a lotion.

Acetophenone.—*Syn.* HYPNONE; PHENYL-METHYL ACETONE. *Dose.*—1½ to 5 minims, suspended in almond emulsion, or with mucilage or syrup and peppermint water, or in **Capsules of Hypnone** with oil, which contain ¾ minim of Hypnone in each.

Hypnone is a colourless liquid at ordinary temperatures, but crystallises below 50° F. in white needles. Has a strong odour of almond and orange blended. Is insoluble in water, but soluble in alcohol, ether, and oils. As a hypnotic, is said to be useful in nervous affections, and simple insomnia without pain; its administration requires care, as its action is somewhat uncertain.—L. i./86,466; B.M.J. i./86,84,131,947; ii./86,19; P.J. 1885,445,582, and 1886,641.

Has been used with some success internally to promote chloroform anæsthesia.—B.

Is of no value in insomnia.—L. i./86,369; L. i./87,391.

Acidum Carbolicum.—See p. 25.

Acidum Picricum—See p. 41.

Acidum Salicylicum.—See p. 43.

Aniline.—*Syn.* Phenylamine, Mono-Phenylamine.

A colourless, mobile, oily liquid, with a faint vinous odour and aromatic burning taste, soluble in alcohol, ether, and oils, slightly so in water. It darkens in colour by keeping. **Aniline colours**, see p. 378. It is used in the so-called **Aniline Treatment of Phthisis**, which consists of inhalation of 1 part aniline to 7 of eucalyptus oil (oil of anise, peppermint, or gaultheria may be used as the diluent) from a specially-designed inhaler. 10-grain doses of acetanilide are given 4 or 5 times a day; this breaks up in the system, aniline being one of the products. At the same time an ointment of iodine or iodoform with eucalyptus oil is rubbed into the chest, and counter-irritants applied. Aniline is supposed to destroy the tubercle bacilli in the blood.—B.M.J. i./87,579,789,842; L. i./88,569.

Fuchsine. — **Rosaniline Mono-Hydrochlorate.** *Syn.*—MAGENTA; ROSEINE.

Dose.—¼ to 4 grains in a pill, with glycerine of tragacanth.

This aniline product is in brilliant iridescent beetle-coloured crystals, which form an intense deep-red solution in water. Fuchsine is much used for staining histological preparations, and has been used medicinally.

It should be specially prepared for this purpose, and free from arsenic, otherwise it always contains this poison in variable quantity, owing to the process of its manufacture.—M.T.G. i./70,617. When used as a dye, this impurity may irritate the skin, especially in persons who perspire much.

Useful in renal albuminuria, given in 1 to 4-grain doses in pills.—Pr. xxvi.302; B.M.J. ii./79,947.

Use of a solution of this colour, between glass plates in remedying some forms of colour-blindness.—Pr. xxiv.133.

In albuminuria, gave better results than any other medicinal treatment; the albumen diminished considerably, or disappeared, while Fuchsine was given in 1-grain doses; the urine was coloured by it, and often the stools.—Pr. xxvi.40; B.M.J. ii./85,1062; Th.Gaz. March,1888,191.

Employed in staining the bacillus of tubercle for microscopic examination.—B.M.J. i./82,916; B.M.J. ii./82,735,786,1156; L. ii./82,183,1078,1138.

Antifebrin. (Is patented under this name.)—
Syn. ACETANILIDE; PHENYLACETAMIDE.

Dose.—4 to 15 grains in cachets or suspended by means of mucilage of tragacanth or acacia in an aqueous vehicle.

May be prepared by the action of aniline on acetyl-chloride or anhydrous acetic acid. It is found in small white odourless glittering crystals, which produce a burning sensation on the tongue, melt at 113° C. and distil at 292° C. It is almost insoluble in cold water, but freely soluble in spirit, and is neutral in its reaction. It is used as a febrifuge and antipyretic, hypnotic sedative, anti-epileptic, anti-arthritic, and nervine tonic, and given with good results in malignant small-pox.—Y.B. 1888,102, 111, 287; L. ii./86,462,645; L. i./87,41 L. ii./87,85,776. Therapeutic study.—B.M.J. i./87,339.

Alcoholic delirium relieved by 10-grain doses.—Th.Gaz. April, 1888,254.

Preferred in Poland to other anti-pyretics; two- or three-grain doses given in phthisis.—B.M.J. ii./87,1396.

Checks the chills and fever of phthisis, quiets the nervous system, and improves the well-being. —Pr.xxxviii.447.

Does not destroy microbes in solutions.—L.ii./87,1132.

Clinical notes and experiments on animals.- Th.Gaz. Dec.1887,840. Preferred for sthenic fevers.—L. i./88, 1108.

Relieves the darting pains of locomotor ataxy.— L. i./87,41.

For rheumatism acts as the salicylates do, is four times as strong as antipyrin.—Ed.M.J. March,1887,850.

Antipyrin (a patented preparation).

Syn.—DIMETHYLOXYCHINIZIN; ANALGESINE.

Dose.—4 to 30 grains in cachets or aqueous solution.

Is in pearly white crystalline scales or powder, melting at 233° F., bitterish in taste, readily soluble in water, and the solution gives a deep red colour with solution of perchloride of iron. It is an analgesic, febrifuge, and hæmostatic, reduces the temperature of fevers, including typhoid, scarlet, relapsing, puerperal, and hectic, and subdues the pyrexia of pneumonia, pleurisy, phthisis, and erysipelas. In doses of 4 to 15 grains it relieves locomotor ataxy, migraine, facial neuralgia, and sea sickness. Hypodermically for lumbago, sciatica, angina pectoris, biliary and renal colic, and dysmenorrhœa. A measly rash has at times been observed after its use; the urine is not discoloured.—L. ii./84,32; L. i./85,34, 1051; B.M.J. ii./84,914; B.M.J. i./85,1223; Edin. Med. Jour. 1884, 390.

To effect material reduction in temperature, 45 to 75 grains are sufficient, given in three doses hourly of 30 grains, then 30 again, and lastly 15 grains; or 15 grains hourly for three hours: 75 grains should suffice for 24 hours. 30 grains dissolved in 16 minims of warm water may be injected hypodermically, or may be given at twice. Peppermint water or essence disguises its taste. It may be administered as an enema if contraindicated by the mouth. Is incompatible with spirit of nitrous ether.

Cachets containing 5 to 20 grains are easily taken after being dipped in water.

Granular Effervescent Antipyrin contains 5 grains in a drachm. *Dose.*—One teaspoonful or more.

njectio Antipyrin Hypodermica.—1 grain contained in 2 minims. *Dose.*—8 to 30 minims or more. The pain it causes may be lessened by the addition of cocaine, as in

Injectio Antipyrin et Cocainæ Hypodermica, containing 1 grain of Hydrochlorate of Cocaine in 150 minims of above. *Dose.*—8 to 30 minims or more.

Tabellæ Antipyrin contain 5 grains each. *Dose.*—1 to 4 or more.

Specially useful for children; give three doses of as many decigrammes (1½ grains) as the child is old.—Pr. xxxiii. 461.

Use in hectic of phthisis; in chronic fever it has no rival.—Pr. xxxiv. 321.

Death after administration.—L. i./85,382.

Sea sickness relieved.- B.M.J. ii./87,1355, P.J. 1888, 1005.

Typhoid and pneumonia are relieved by its internal use.—B.M.J. ii./85,865, L. i./86,495.

Enemata to relieve pains of labour, do not check contractions.- Th. Gaz. March, 1888,174; L. i./88,1100.

Checks nocturnal emissions, and does not cause acne.—L. i /88.339. Cerebro-spinal meningitis.—B.M.J. i./88,1218.

Risk from impurities.—B.M.J. i./88,661,707.

Is uncertain, and shows dangerous effects in some cases. -B.M.J. ii./86 629.

Chorea quickly relieved by 15-grain doses three times a day.—Th. Gaz. April, 1888,249.

Migraine, small doses of 3 or 4 grains are valuable.—Pr. xl. 99,126,266

Other references to the cure of migraine and headache.—L. i./86,223; L. i./87 907; L. ii./87,795,948,1162, 1344; B.M.J. ii./87,1379.

Relieves pains of locomotor ataxy.—B.M.J. i./87,1273.

Relieves rheumatism, better than thallin.—Ed. M.J. Oct. 1886,376; L. ii./86,386, Glas. M.J. May 1888,548.

Good effects in checking diabetes.—B.M.J. ii./87,961.

Summary of its uses, favourable opinion.- -Ed. M.J. 1886, 171; Th. Gaz. Nov. 1887,773; B.M.J. i./88,1053.

Hæmoptysis checked.—B.M.J. ii./87,1349; L. ii./87. 880. Fails to check bleeding of wounds.—B.M.J. i./88, 1075.

The best antipyretic, but apt to cause cyanosis.—L. i./88,868,918.

Useful as an anodyne in rheumatism.—L. i./88,1024.

To be avoided in kidney disease.—B.M.J. i./88,1185.

Epistaxis stopped by local use of a 1 in 30 solution. —B.M.J. ii./85,993.

Antithermin.—*Syn.* **Phenyl-hydrazin-levulinic Acid.** *Dose.*—8 grains.

It is allied to antipyrin, phenyl-hydrazin being an intermediate product in the formation of that body, as well as of this. Is obtained by dissolving phenylhydrazin in dilute acetic acid, and adding to it a solution of levulinic acid, which forms a yellow precipitate which is recrystallized from alcohol.—P.J. 1887,801. Not used in England. Is apt to cause stomach pains.

Betol, see p. 257.

Chinolinum.—Chinoline. *Dose.*—3 to 10 minims.

A transparent, colourless, strongly-refracting, mobile, oily liquid, with a peculiar odour, soluble in alcohol, but insoluble in water. May be obtained as a derivative of cinchonine and quinine, but recently prepared synthetically by heating, with certain precautions, a mixture of nitro-benzol 24 parts, aniline 38, glycerine 120, and strong sulphuric acid 100. The chinoline is separated by adding caustic soda in excess and distilling in a current of steam.—P.J. 1882,245.

Chinolini Tartras.

Dose.—5 to 15 grains in chloroform water, with syrup of orange, or in wafer paper.

This salt is most recommended for use. It is, when pure, in odourless, glistening, white acicular crystals, nauseous in taste, and soluble about 1 in 40 of water.

Salicylate of Chinoline.

Is also sold. It is less soluble than the above.

The mineral acid salts of chinoline, being mostly deliquescent, do not crystallize well.

Tartrate of chinoline is a powerful germicide and antiseptic. A one per cent. solution completely destroys the coagulability of blood, and weaker solutions render sterile, propagating fluids. Therapeutically, it is a powerful antipyretic in enteric and intermittent fevers, useful in periodic neuralgia, and as a local antiseptic.—B.M.J. ii./81,408; P.J. 1881,279,317,532; P.J. 1882, 624,661; L. i./82,324.

Used in diphtheria, as a pigment to paint the fauces.

5 per cent. of pure chinoline in solution of equal parts spirit and water, and more dilute as a gargle, checks the onset of the dangerous symptoms and in many cases membrane is cast off within 24 hours.—Pr. xxix.447.

Use in erysipelas, acute rheumatism, and typhus.—L. i./85,862.

Kairine. (A patented preparation.)

Dose.—5 to 8 or 15 grains in pill with glycerine of tragacanth or wafer paper.

The hydrochlorate of oxychinoline-ethyl is used as a febrifuge under this name. It is in minute white granular crystals, freely soluble in water, less so in alcohol, insoluble in ether; the aqueous solution is precipitated by ammonia; the taste is saline, bitter, and persistently nauseous. At London Fever Hospital no patient could be induced to take a second dose in solution.

Used in various fevers, and acute inflammations, it may colour the urine green.—L. ii./83,344,552.

Peritonitis 3 cases, doses of 3 grains every hour, reduced pulse and temperature.—B.M.J.i./84,250.

Clinical note on; is a very powerful, if not the most powerful antipyretic.—B.M.J.i./84,711.

Best given hypodermically; acts more rapidly, and effects last longer.—L. ii./84,32.

A good and safe antipyretic; in rheumatism it reduces the temperature, and produces copious perspiration.—B.M.J. ii./84,1125.

Reduces the oxygen-absorbing power of the blood.—Pr. xxxiii.56.

Naphthalin.—See p. 257.

Naphthol.—See p. 257.

Phenacetin. *Syn.*—PARA-ACET-PHENETIDIN. *Dose.*—4 to 8 increased to 15 grains, in cachets, or suspended in mucilaginous fluids.

An acetyl compound of Phenetidin (the ethylic ether of paramidophenol). It is analogous with acetanilide (antifebrin). It is in white, shining, laminar crystals, inodorous and tasteless, very slightly soluble in water or glycerine, freely soluble in hot alcohol, insoluble in acid or alkaline solutions.—B.M.J. i./88,1126.

Doses of 4 to 8 grains reduced temperature in cases of pyrexia, but effects are only of short duration.

As a febrifuge, 8 to 12 grains every 4 hours.—B.M.J. i./88,744, 901; Th. Gaz. Nov. 1887,765,773; P. J. 1888 1005.

Is an undoubted anti-pyretic, 10 cases treated by doses of 5 to 8 grains, action begins within half an hour after administration.—Pr. xl.344; B.M.J. i./88,1113.

Salol.—See p. 47.

Thalline, Tetrahydroparamethyloxychinoline or Tetrahydroparachinanisol. (Is patented.)

Syn.—THALLINÆ SULPHAS, Sulphate of Thalline.

Dose.—3 to 8 grains.

In white or whitish granular crystals, melts at 212° F., has a nauseous, slightly pungent taste, soluble 1 in 5 of cold water, which darkens by exposure to light; a dilute solution gives an emerald green colour with perchloride of iron, after some hours passing to a deep red. It possesses marked antipyretic properties, but diminishes the respiratory capacity of the blood by destroying its hæmoglobin, in this respect resembling kairine rather than antipyrin. Full doses have been known to produce dark-coloured urine. Reports of its action are found to vary; some have noticed a gradual fall in temperature and absence of secondary disturbance, whilst others note a sharp fall, followed by rigors.—L. ii./84,1018; L. i./85,723; B.M.J. i./85,1176.

Antrophores, or spiral spring bougies coated with gelatine, and medicated with 5 (or weaker 2½) per cent. of thalline, have been used for gonorrhœa. —L. i./88,591.

Report from Zurich, it is better than kairine, and less valuable than antipyrin.—Pr. xxxvi.127.

In rheumatism is less valuable than antipyrin.— L. ii./86,386.

Cardiac weakness and kidney disease forbid its use.— Th.Gaz.Jan.1888,40.

In typhoid acts as a specific.—B.M.J. i./86,83.

Fatal effects follow its use. A case in which dose was increased up to nine grains proved fatal; four grains should not be exceeded.—B.M.J. i./87,793.

COCA (*Off.*).

Syn.—CUCA.

Dose.—½ to 2 drachms.

The dried leaves of *Erythroxylon Coca*, a shrub cultivated on the slopes and plateaux of the Andes, chiefly in Bolivia and Peru, but also in the Argentine

Republic, Ecuador, United States of Columbia, and Central America, as far north as San Salvador.

They are one to two or more inches long, oval oblong, but some are ovate, while others are obovate, entire on the margin, sometimes acuminate, but usually blunt and emarginate, and often with an apiculus in the notch at the apex; rather thin, smooth, with a prominent midrib, and on each side a curved line running from the base to the apex. They have a slight odour of tea, and a somewhat grass-like, bitter, aromatic taste; in colour they vary from a pale bright green, changing to a yellowish green (Peruvian variety)—this is smaller, thinner, and much broken—to a dull brownish olive (Bolivian variety): this is larger, broader, and a thicker leaf, not broken, paler in colour beneath; the inner curved lines from base to apex are very marked on this, but only faintly on the Peruvian variety, in some leaves hardly discernible. In selecting them, care should be taken that they have not fermented or become fusty; they may appear of a good green colour, yet have a mouldy taste. The Coca plant has been acclimatised in Ceylon and some parts of India.

The uses of the Coca leaf in Bolivia and Peru have been described by many travellers, who have seen it chewed. From two to eight or twelve drachms or more is used daily, in conjunction with the ashes of the Quinoa plant or with lime, as a remedy for, or preventive against, the effects of extraordinary physical exertion, to relieve the difficulty of respiration in ascending mountains, and to appease hunger, thirst, and fatigue. The leaves contain the crystalline alkaloid Cocaine (see page 138). They are said to be most active when freshly dried, and are much used by the native Indians, miners, travellers, and others.

Elixir Cocæ.—1 in 6 of Simple Elixir.

Dose.—1 to 4 drachms in water is a palatable preparation.

Extractum Cocæ Liquidum (*Off.*).

Syn.—Extractum Erythroxyli Fluidum, U.S.

Dose.—½ to 2 drachms.

Coca leaves are exhausted by percolation with proof spirit, the second part of percolate concentrated and dissolved in the first portion, and the strength adjusted so that 1 ounce = 1 of leaves; this is about six times the strength of the French nostrum mentioned below. If freed from wax, it is miscible with water and more palatable.

By distilling off the spirit and concentrating by evaporation, a solid semi-alcoholic preparation is obtained about four times the strength of the above, known as:—

Extractum Cocæ.

Dose.—2 to 15 grains or more, in pills or pastils.

Infusum Cocæ.—1 in 50 of boiling water.

Taken hot like tea with milk and sugar, or with a slice of lemon, it forms a refreshing beverage. In tonsillitis it may be used warm as a gargle.

Pastillus Cocæ Extracti.—2½ grains of the extract in each.

Dose.—One every two or three hours.

Coca pastils are good; cocaine cured case of asthma of 15 years' standing; recommended for hay-fever, spasmodic asthma, and post-nasal catarrh.—M.P.C. ii./85,320.

Vinum Cocæ.—1 in 30 of Sherry. A port or red wine vehicle is sometimes preferred.

Dose.—½ ounce to a wineglassful.

French nostrums, much advertised, are a **Wine of Coca**, containing about 1 in 30—*dose*, a wineglassful—and a **Liquid Extract**, and an **Elixir**, about 1 in 6—*dose*, 1 to 4 drachms.

Coca has been praised as a nervine and muscular tonic, preventing waste of tissue, appeasing hunger and thirst, relieving fatigue, aiding free respiration, and as being useful in various diseases of the digestive and respiratory organs. It is said to be specially useful in many forms of asthma, chronic bronchitis, obstinate cough, phthisis, and general debility; in gastric derangements, owing to its slight astringency, it seems to give more tone to the stomach than the mere anæsthetic action of the Cocaine it contains would produce locally; it is recommended for indigestion, gastralgia, gastrodynia, nausea, sickness, distaste for food, is given to relieve pain, nausea, vomiting or discomfort caused by excess in either eating or drinking or by pregnancy, and as a cure for morphine and alcohol craving. In using it for this in America it is said in some cases to have produced "Coca Craving."

Coca is also said to cause mental exhilaration, has been used in melancholia, in cases of inordinate hunger or thirst, such as occur in some forms of diabetes, and in cases of generative debility. Locally, a solution of the extract in water has been used as a pigment in irritated, inflamed, and granular conditions of the larynx and pharynx.

The pastils have been used similarly for loss of voice due to weakness or relaxation of the vocal cords. Topically these preparations act as astringent sedatives without deranging the stomach. Externally, Coca may be made into poultices, or a plaster made with the extract combined with resin or soap plaster may be applied for rheumatism, lumbago, &c. The leaves are sometimes smoked to relieve asthma.

The leaves are chewed to appease hunger and support strength, in the absence of food, and used generally for the stimulant and narcotic effects of tobacco and alcohol. —Pr. xvi.467.

Coca-leaves as an inhalation, or smoked in a pipe, have a decided effect on bronchial spasm.—L. i./76,520.

Is of use to steady the nerves of excitable persons—to a sportsman in shooting, for example; to give endurance, is used by travellers in Bolivia and Peru, and to counteract the effect of rarefied air on mountains.—L. ii.76,449.

Historical and botanical account of the plant and its uses; the result of a series of experiments on its use was most unsatisfactory, although the drug was given in every variety of ways, under all circumstances, and at all hours of the day.—L. i./76,631,664.

Two ascents of Ben Voirlich, under the influence of, respectively, 60 and 90 grains, done with ease by Sir Robert Christison. By the use of Coca hunger and thirst are suspended, but eventually appetite and digestion are unaffected; the mental faculties are not affected after great bodily fatigue, except by freeing them from dulness and drowsiness.—B.M.J. i./76,527; P.J. 1876,883.

Twelve athletes, during a game, chewed, without lime or ashes, from 60 to 90 grains; at first in some, dryness was felt, and relieved by washing the mouth; then followed a feeling of invigoration, so that fatigue was wholly or in great part resisted; the pulse increased in frequency, and perspiration augmented. Save exhilaration of spirits, no mental effects were noticed or disagreeable effects realized.—P.J. 1877,221.

It enables a greater amount of fatigue to be borne with less nourishment, and lessens the difficulty of respiration in ascending mountain sides. Tea made from it has much the taste of green tea, and is much more effectual in keeping people awake.—Markham's Peruvian Bark, p. 152.

In France, Bouchardat states it has rendered most valuable therapeutic service, almost equal to cinchona bark. It is a stimulant to the nervous and muscular systems, and ranks with tea and coffee; it prevents the rapid waste of tissue, and enables the consumer to go a long time without food.—B.M.J. i./76,486.

Use in walking feats.—B.M.J. i./76,335,361,387,518, 519,750,752. Climbing Mont Blanc.—M.T.G. ii./82, 165.

The leaves are neither nutritive nor tonic; it is in their anæsthetic properties, developed by chewing the leaves with lime or plant ash, the Indian finds the numbing effect on the mucous membrane of the stomach that he seeks.—P.J. 1885,266.

Wine of Coca checks vomiting of irritable stomach.—L. ii./85,1078.

Fluid extract of Coca relieved hæmorrhage from bowel when given internally.—Pr. xxxv.401. And gives great relief in gastralgia.—M.P.C. ii./87,479.

Cocaina, Cocaine.

Dose.—$\frac{1}{10}$ to 1 grain, in a pill or tablet.

This now important alkaloid, obtained from Coca was first isolated by Niemann in 1860. It crystallizes in colourless monoclinic prisms, and requires 700 or more (upwards of 1,300, Dr. Paul) parts of water to dissolve it, it is more soluble in alcohol (about 1 in 20), freely so in chloroform, ether (about 1 in 3), oil of cloves, and many other volatile oils, and 1 in 10 respectively of melted vaseline and castor oil, and other fixed oils. The latter solutions have proved serviceable in eye cases. The following are also ready solvents, each taking up about 1 of it in 3 parts: benzol, toluol, and amylic alcohol; of petroleum spirit about 25 parts are required. It is almost tasteless, but produces a tingling numbness on the tongue and local anæsthetic action on all mucous membranes. Good Coca leaves yield 0·5 per cent. or more of Cocaine, but the average is less, if fermented—often *nil*. Cocaine seems to be very sensitive to chemical and physical action, and readily yields derivatives. The dried leaves are also said to contain Hygrine (?) a volatile principle, with Cocamine, Cocaidine, Ecgonine, Coca-tannin, and Coca-wax. Ecgonine (together with benzoic acid and methyl-alcohol) may also be obtained as a derivative from Cocaine, and by heating benzoyl-ecgonine, a by-product obtained in the manufacture of and probably a derivative of Cocaine, mixed with iodide of methyl and methyl alcohol, Cocaine has been obtained synthetically.

On combining Cocaine with benzoic acid, Benzoyl-ecgonine appears to be formed—the aqueous solution is not precipitated by ammonia.

Cocaine is prepared by treating the powdered leaves with a solution of carbonate of sodium, drying the mixture and exhausting it with petroleum spirit. The latter, which dissolves the cocaine with very little colouring matter, is agitated with very dilute hydrochloric acid, the petroleum is decanted and the cocaine precipitated from the aqueous solution by adding carbonate of sodium again. The precipitate is separated by shaking with ether, which on evaporation yields crystals of almost pure Cocaine. Most of the Cocaine now used is manufactured in South America in a crude form, and is purified and recrystallised or converted into a hydrochlorate after its arrival in Europe.

No coloration is produced by dissolving pure Cocaine or its hydrochlorate in cold concentrated sulphuric acid; with the salt, effervescence occurs, owing to hydrochloric acid gas being set free. Some samples of them give a faint evanescent yellow coloration, and others give a magenta tinge which gradually passes to a brownish yellow, and eventually the solution becomes almost colourless.

As pure Cocaine (the alkaloid) is soluble in fats and oils, and its salts are not, it should always be used when it has to be combined with fatty or oily substances, for use externally, *e.g.*:—

Bougies of Cocaine. ½ grain in each or more, with cacao-butter. Are useful in painful affections of the urethra.

Ceratum Cocainæ. 1 in 30 of petroleum cerate. Is useful in burns, scalds, urticaria, pruritus, &c.

Collodium Cocainæ. 2 per cent. in flexible collodion. Allays the itching, and is a cure for inflamed chilblains.

Emplastrum Cocainæ.—1 dissolved in 50 of lead plaster heated in a water bath. Useful for intercostal neuralgia, sciatica, tender corns, bruises, &c.

Oleatum Cocainæ.

A saturated solution of the alkaloid in oleic acid; heated, one part will dissolve in two parts of oleic acid; it may be further diluted with oleic acid or oil. Has not proved so satisfactory a preparation as

Oleum cum Cocaina.

A 2 per cent. solution, more or less, if ordered, in almond oil, is mostly used. This is useful for earache. For the eye a 2 per cent. solution in castor oil is used, may be combined with homatropine, see p. 85; for catheters, a solution in equal parts castor and almond oils does well, it is viscid, and does not congeal in winter.

Suppositories and **Pessaries of Cocaine** have $\frac{1}{2}$ grain (or more, if ordered) in each with cacao-butter.

Tabellæ Cocainæ, Cocaine Tablets. $\frac{1}{20}$ grain in each, with chocolate.

Dose.—1 every quarter-, half-hour or hour, quickly eaten and swallowed. Useful for sea sickness, chloroform or alcohol sickness, sickness of pregnancy, &c. They are also made containing $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1, and 2 grains in each respectively.

Unguentum Cocainæ. 1 in 30 of lard or lanolin (more or less, if ordered). Cocaine is soluble 1 in 2 of anhydrous lanolin if gently warmed.

Useful where absorption is required, as in facial neuralgia, shingles, eczema, erysipelas, urticaria, and pruritus.

Vaselinum Cocainæ. 4 per cent. (more or less, if ordered).

Suitable for the eye; is very bland; also for smearing catheters, burns, scalds, &c.

Cocainæ Citras, Citrate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain or more.

Is in deliquescent small white crystals; used by dentists.

Cocainæ Hydrobromas, Hydrobromate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain, in a pill or solution. Is a stable salt, in odourless, small, white, hard, acicular crystals.

Cocainæ Hydrochloras (*Off.*).

Off. Dose.—"$\frac{1}{5}$ to 1 grain," but less and more may be given, in aqueous solution, pill, or pastil.

This salt has been most used: if pure it is in hard, colourless acicular or lamellar crystals, free from odour and almost tasteless, and being soluble in half its weight of water, the tingling numbness and local anæsthesia it produces are more intense than that produced by pure cocaine.

It is freely soluble in spirit and in glycerine, insoluble in ether, fats, and oils, and therefore incompatible with them. This salt will crystallize with 10 per cent. of water of crystallization, but the anhydrous salt alone is official. It dissolves with effervescence but without colour in cold sulphuric acid (*see* Cocaine, p. 138), but chars if heated. Ignited in the air, it burns without residue. Its aqueous solution gives a white precipitate with carbonate of ammonium, soluble in excess. If two drops of solution of permanganate of potassium be added to a solution of 1 grain of it in a drachm of distilled water, the red colour remains for some time, as the manganese salt is not reduced. The salt should not only be in good crystals, but should yield a distinctly crystalline precipitate of pure cocaine within three minutes, when 1 grain of it is dissolved in 2 ounces of distilled water, and six to eight drops of solution of ammonia, B.P., are added and well stirred. The precipitate redissolves after twenty-four hours or more, the cocaine being converted into, and held in solution as, benzoyl-ecgonine. —P. J. 1888, 783. It is an antiseptic, a five per cent. aqueous solution delays the putrefactive changes in an extract of meat; yet fungi occasionally grow in its aqueous solutions.

As with an aqueous solution of sulphate of atropine, so with an aqueous solution of hydrochlorate of cocaine, some samples seem prone to grow fungi, while others will not. Evil results having followed the application of Cocaine as an anæsthetic in several dental and eye operations, the bad effects have been attributed to these fungoid growths. Whether due to these, to impurity of the salt, or to idiosyncrasy of the patients is not clear. Three London surgeons who have used it very largely say they have never seen any untoward results from its use in simple aqueous solution. But carbolic, salicylic, boric, and benzoic acids, perchloride of mercury, thymol, camphor, and chloroform have been added to check the growth of fungi; a half to one per cent. of boric acid has been particularly recommended, yet it is of little use, as an aqueous solution of boric acid itself sometimes grows a fungus; chloroform is probably the least objectionable. The addition of perchloride of mercury is useless, as it forms a double salt with the Cocaine. All these additions do but contaminate, and are unwarranted in dispensing unless specially ordered. By a careful selection, and the testing of each supply purchased, the writer has come to the conclusion that, if the solution in distilled water be sterilized by boiling, and afterwards kept free from dust, such additions are unnecessary.

Buginaria Cocainæ Hydrochloratis, NASAL BOUGIES OF HYDROCHLORATE OF COCAINE.

One-sixth of a grain in each with gelato-glycerine basis. Useful in hay fever, sometimes combined with $\frac{1}{120}$ grain of sulphate of atropine in each.

Injectio Cocainæ Hydrochloratis Hypodermica. 1 in 20.

Dose.—2 to 10 minims. For sciatica and many local affections acts better than morphine.

Lamellæ Cocainæ, Discs of Cocaine (*Off.*).

Discs of gelatine, each containing $\frac{1}{200}$ grain of hydrochlorate of cocaine. These should be prepared in an atmosphere carefully freed from dust and germs of fungi and disease. Also prepared containing $\frac{1}{50}$ grain in each.

Liquor Cocainæ Hydrochloratis. 2 to 30 per cent. in water sterilized as above.

Pastillus Cocainæ Hydrochloratis. $\frac{1}{20}$ grain in each (or more if ordered, *e.g.*, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1, and 2 grains respectively).

Useful in allaying irritation of the throat and hoarseness. They invigorate the vocal organs of singers and public speakers.

Pastillus Cocainæ et Morphinæ contains 1/[illegible] grain Cocaine and $\frac{1}{60}$ grain Morphine.

Pilula Cocainæ Hydrochloratis. 1/[illegible] grain in each (or more, if ordered), with sugar of milk and syrup *q.s.* to make a grain pill.

Tabloids of Hydrochlorate of Cocaine. $\frac{1}{10}$ and $\frac{1}{6}$ grain each. Are prepared for hypodermic injection.

Trochisci Cocainæ Hydrochloratis. $\frac{1}{12}$ grain in each. Used for similar purposes to the pastils.

Cocainæ Saccharis, Saccharite of Cocaine.

Cocaine combined with Saccharin, forms a white, deliquescent, amorphous salt, very soluble in water. The solution is said, on account of its sweetness, to make a useful application for the throat, especially of children.

Dose.—$\frac{1}{4}$ to 1 grain.—B.M.G. i./88,544.

Cocainæ Salicylas. *Dose*.—$\frac{1}{8}$ to 1 grain or more. Is in minute snow-white crystals, slightly deliquescent, and is recommended for the use of oculists, as it forms a solution which keeps well. In spasmodic asthma, the hypodermic injection of a good dose (6 grains), at the beginning, relieves the attack.—B.M.J. ii./86, 117.

Cocaine and its salts, although selling at one time as high as 3s. 6d. per grain, are now reduced to a very moderate price.

The curious property cocaine possesses of producing local anæsthesia was even noted by the discoverer of the alkaloid—Niemann, who, so far back as 1860, wrote: "It produces temporary insensibility on the part of the tongue with which it comes in contact" (Watts's Dict, i. 1059, *ex* "Ann. Ch. Pharm." cxiv. 215). This interesting fact lay dormant until in 1884 Herr Koller, in Vienna, was led to test the local anæsthetic action of the hydrochlorate of the alkaloid, on account of the effect he had witnessed when cocaine in solution was pencilled upon the pharynx to render it less susceptible in laryngoscopic examination. A vial of the solution was given by Herr Koller to Dr. Brettauer, of Trieste, who, on Sept. 15th, 1884, demonstrated its properties at the meeting of the Ophthalmological Congress in Heidelberg. Several experiments were made with the two per cent. solution, which showed that when two drops of the liquid were placed upon the surface of the normal cornea, and the application repeated after an interval of ten minutes, at the end of ten minutes more, the sensibility of the cornea was so far diminished that it could be pressed with a probe; the cornea and the surface of the eyeball and eyelids adjoining could be rubbed; a speculum could be inserted and the lids widely separated, and the conjunctiva could even be seized with fixation forceps, and the eye moved in various directions without causing the patient notable discomfort.

Besides rendering the superficial structures of the eye anæsthetic, it is a mydriatic, and paralyses the accommodation, which passes off sooner than the dilatation of the pupil; this does not at longest last more than twelve hours. The sensitiveness of the iris is less affected than that of the surface of the eye. The great excellence of cocaine consists in the limitation of its action to the tissues to which it is applied. No doubt, other symptoms at a distance do result from the application of the anæsthetic, but they have been, for the most part, insignificant and free from dangerous consequences. In some measure cocaine may be compared with curare. The one agent paralyses the termination of the sensory nerves, whilst the other paralyses the termination of the motor nerves. Aconite would seem to act in a manner the very reverse of cocaine. When applied to a mucous membrane, it has probably a constricting action on the vessels, produces a blanching of the part, and simultaneously a deadening of the nervous excitability which passes into a complete state of anæsthesia; its effect, however, does not sink deeply into the adjacent tissues, nor does it last long. This surface application is sufficient to render painless the use of a caustic, the passage of catheters and lithotrites, or the performance of operations which do not involve the more deeply-seated tissues. Such operations as the opening of abscesses and buboes, the removal of small tumours, require the surface anæsthesia to be supplemented by two or more hypodermic injections, of a quarter of a grain in each, of the hydrochlorate in close contiguity to the part to be operated on. Injected hypodermically, the aqueous solutions of its salts deaden sensibility around the puncture, so that the deep prick of a pin is not felt—the surrounding part is reddened, but after thirty minutes it resumes its normal condition; injected locally, is more useful than morphine in relieving sciatica. Although solutions of it are little absorbed by the skin,—even a chloroform solution is scarcely at all absorbed,—yet the application of an ointment of the pure alkaloid, made with lard or an oily solution, to a surface will remove the pain of inflammation, as in eczema or erysipelas, or the pain of facial neuralgia or shingles, and the irritation of urticaria or pruritus. Burns and scalds should first be brushed over with a 4 per cent. aqueous solution of the hydrochlorate, and the pure alkaloid, combined with carron oil (Linimentum Calcis), petroleum cerate, or boric acid ointment, afterwards applied on cotton wool or lint. Combined with boric acid ointment, also, it may be used for fissured nipples, or for these and stings and bites of insects an aqueous solution may be applied. The irritability of inflamed mucous surfaces, as in hay-fever, influenza, coryza, bronchitis, spasmodic asthma, laryngitis, and pharyngitis, is much relieved by the spray of a watery solution of a cocaine salt. In obstetrics, its local application relieves the pain of the dilating os uteri, and diminishes the sensibility of the perinæum whilst being dilated in first labours; rents of the perinæum may be stitched up almost painlessly under its action, and under its influence many minor gynæcological operations are much facilitated by the ability to insert needles and make small incisions without pain. The spasmodic and painful affections of the vagina, causing dyspareunia and vaginismus, may be minimised, by vaginal injections of a quarter of a grain of cocaine in 1 per cent. oily solutions. In dentistry, it is useful in toothache; it deadens the sensibility of exposed pulp. The pure alkaloid is preferable to the salts for this purpose, because, being less soluble in water, it is less liable to be washed away by the saliva. If a little be inserted in the cavity of a carious tooth and covered with a plug of mastic solution, all pain is obtunded for a considerable time. A strong solution in oil of cloves is also useful. In preparing the cavity, previous to filling, the sensitiveness of the dentine is more effectively treated by using a salt of cocaine—either the hydrochlorate or citrate; the latter has been recommended, as it can be formed into a pellet with the fingers and pressed into the cavity, but it is not so rich in true alkaloid as the hydrochlorate; yet, either of these is absorbed more quickly than the alkaloid itself, which, as before said, is more suitable for plugging a cavity for some length of time. Before using arsenical paste to destroy the nerve when exposed, if about a quarter of a grain of a cocaine salt be inserted into the cavity, after partially clearing, it will anæsthetize the pulp in about five minutes, and enable the operator thoroughly to open the cavity and expose the pulp directly to the action of the arsenical paste without pain to the patient. In extraction, if a dose be hypodermically injected into the gum on each side at the base of the tooth, after waiting about five minutes this may be done almost painlessly, and, if a 50 per cent. aqueous solution of the hydrochlorate be painted on the surrounding gum, the first pain of inserting the forceps is annulled. The eye, ear, throat, mouth, tongue, pharynx, nose, larynx, trachea, urethra, vagina, os uteri, anus, rectum, and, in fact, the whole mucous membrane, as well as cut surfaces and open sores, are affected by it, and the true skin less so.

Solutions of hydrochlorate of cocaine have been employed topically in excision of the tonsils, cauterizing the turbinated tissue of the nose, painting chancres previous to the application of nitric acid or other caustics, opening abscesses, removing polypi, and many cases of iridectomy and operation for cataract, squint, and removal of foreign bodies from the eye. For the eye an aqueous solution of the hydrochlorate of cocaine of 2 to 4 per cent. is generally used, and a 4 to 20 or even 50 per cent. for other purposes; of the weaker solutions it is necessary to repeat the application three to five times, at intervals of three to five minutes. At a discussion on Anæsthetics at the Medical Society (L. ii./84,957), a speaker advocated the use of the strongest solution. No injurious effects, either local or constitutional, seem to follow its use. Its action commences in three minutes, increases from ten to twenty minutes, and mostly disappears within half an hour.

Equal parts of an 8 per cent. solution and liquor atropinæ sulphatis form an effective remedy for all painful and inflamed conditions of the eye; and half a grain of pilocarpine nitrate, added to 1 drachm of a 4 per cent. solution, produces anæsthesia without in the least disturbing the accommodation.—Whitla.

As regards the toxic properties of cocaine, its effects appear to be mild and not cumulative. It causes cessation of respiration,—small doses have an exhilarating effect on the nerve-centres and other parts of the nervous system. In a case of attempted suicide by an apothecary, a dose of 1·5 grammes (23 grains) seemed to have no seriously injurious effect.—Varge's "Zeitschr." v.f. 11, 5, p. 222, 1863.

A writer in the *British and Colonial Druggist*, Feb 1885, p. 36, describes the effect of doses of the hydrochlorate, equivalent to 32 grains of cocaine itself taken within three hours. After eleven hours, sleep intervened for thirteen hours, followed by a feeling of dizziness on waking, which entirely disappeared in twenty-four hours.

By physiologists, it had been supposed that cocaine would have properties allied to, if not identical with, caffeine, theine, or theobromine, in the manner that these themselves are allied. But, chemically, cocaine is quite distinct; it is much less soluble in water than caffeine; it is a strong base, which caffeine is not, and its chemical constitution and derivatives are quite distinct from those of caffeine.

Opinions are at present divided as to whether the anæsthesia produced by Cocaine is the result of the vasomotor disturbance, the small vessels are caused to contract by its application, and the nervous filaments are doubtless anæmic, or whether Cocaine acts directly as a paralyser on the nervous endings, whether of sensibility, or touch, or of special sense, since it removes the power of taste and smell, as well as the perception of touch and pain. When Cocaine is administered in such a dose and manner as to affect the whole system, the brain seems to become excited, the heart stimulated, and blood pressure increased. Poisonous doses kill by asphyxia, the breathing becoming arrested and the heart failing in diastole; but this has not yet been observed in man, the dose necessary to produce this effect being very large; 20 grains have been taken without very serious result. It diminishes all the secretions, and, although the intestinal movements are slightly stimulated at first, larger doses or continued use cause sluggish action, dyspepsia, and constipation. Tissue change is lessened, and the amount of urea is similarly diminished; the temperature seems to be somewhat higher than normal; albuminuria has been found to follow its use, and sugar has also been found in the urine. The kidneys are probably the special means of its elimination. With regard to its action on muscular fibre nothing is known, observers being completely at variance in their opinions. —Buxton, in Ringer's "Therapeutics," 11th edition.

In Vienna, cocaine has been recommended for use internally in cases of great exhaustion, such as loss of blood, sunstroke, or diarrhœa, also by mouth or hypodermically as a cure for morphine and alcohol craving. Morphine and cocaine appear to be mutually antagonistic. Cocaine has been used in some cases of melancholia and insomnia; it also possesses aphrodisiac properties. It was likewise found to lessen the desire for sleep and feeling of hunger, and to be a stimulant which quickly increases and sustains, in a harmless manner, the physical powers of the body, such as are required in long marches, mountain ascents, &c., in dose of ¾ to 1½ grains.

Cocaine is a stomachic, useful after excess either in eating or drinking, in distaste for food, in sea sickness and vomiting of pregnancy or from other causes; it also improves the condition of the stomach in atonic indigestion and nervous affections of this organ, as well as in phthisis and cachectic cases, especially those arising from the use of mercury.

Cocaine is a mydriatic; slightly raises the temperature, quickens respiration, and pulse is more frequent; by long use, sleep is longer and more profound. Improves nutrition, useful in insomnia and simple melancholia.—M.R. 1883,86.

Eleven successful cases, including three of operation for cataract, one double iridectomy, one removal of tumour from lid, and three for convergent strabismus. In cases of intolerance of light it acts like magic.—L. ii./84,911.

In papillomata of larynx, interior painted with 20 per cent. solution of hydrochlorate of Cocaine once, in five minutes was able to introduce the forceps four times and remove large portions of tumours without patient experiencing any pain or subsequent shock.—L. ii./84,912.

Physiological effects on the eye.—L. ii./84,911.

Seven eye cases under its influence.—Med. Rec. (N.Y.) 1884,510.

Use in the nasal cavity, cotton wool soaked in 2 per cent. solution applied at the end of a probe in over forty cases, including hypertrophy of the nasal mucous membrane (twenty-seven cases cauterized), acute coryza, nasal polypus and hay-fever, all having marked swelling of the nasal mucous membrane, both from chronic and acute causes; in every case there was complete subsidence of the turgescence of the membrane and the sinuses were emptied of their blood.—Med. Rec. (N.Y.) 1884, 533.

Cocaine solution applied to a blistered surface anæsthetizes the part.—B.M.J. i./85,300.

Solution painted on or injected into piles relieves the pain of operating on them.—B.M.J. i./85,227.

References to its surgical use as a local anæsthetic:—L. ii./84,608 (ophthalmic), 683 (ophthalmic), 936 (laryngeal), 975 (ophthalmic), 975 (nasal), 992 (ophthalmic), 1022 (physiological action), 1023 (ophthalmic and aural), 1068 (ophthalmic), 1097 (ophthalmic), 1123 (ophthalmic and dental), 1167 (circumcision and catheter passing); L. i./85,86 (uterine, vaginal, and oral), 123 (in tenesmus), 130 (on mucous membranes), 168 (dental), 220 (rectal), 226,315 (minor surgery), 965 (ophthalmic), 1038 (fistulas, canals), 1067 (ophthalmic), 1097 (nasal), 1112 (ophthalmic); B.M.J. ii./84, 761 (ophthalmic), 1074 (laryngeal), 1132,1142,1143,1219,1256 (ophthalmic), 1133 (dysphagia), 1188 (throat and nose), 1255 (laryngoscopic), 1256 (midwifery and tinnitus); B.M.J. i./85,45,77,131,145,863 (effects on the eye); B.M.J. i./85,24,36,77,235,286,456,792 1266 (ophthalmic surgery); B.M.J. i./85,36,47,209,456,479 (nose and larynx); B.M.J. i./85 377 (cancer); B.M.J. i./85,227, 653,994 (rectal operations); B.M.J. i./85,17,36,47, 361,994 (vagina and urethra); B.M.J. i./85,17,24, 36,69,736,926 (in dentistry); B.M.J. i./85,402 (for scalds); B.M.J. ii./85,396 (tumour of lip removed).

Translation of Carl Koller's report of the earliest observations on the use of cocaine and its salts as local anæsthetics.—L. ii./84,990.

Hydrochlorate of cocaine, 20 per cent. solution allowed nitric acid to be applied without pain.—L. ii./84,1023.

In skin diseases, relieves the inflammation in eczema and acne and the irritation of urticaria L. i./85,76.

Fungoid growths in aqueous solutions of salts of cocaine and other alkaloids.—L. i./85,224,315,504, 597,647.

Physiological action.—L. i./85,439; i./88,1041.

Checks hæmorrhage from lips and gums in purpura. —L. i./85,581; Pr. xxxiv.450.

Hay fever relieved by solution applied locally to nose and eyes.—L. i./85,925; L. ii./85,50,99,123,232; B.M.J. i./85,1084,1291.

For moles, warts, &c., about 6 grains of cocaine to a drachm of nitric acid applied once or twice a day with the point of the rod of an acid bottle is painless; a ring of melted wax should be put round the mole first.—L. i./85,1052.

Résumé of action and uses. — B.M.J. ii./84,1081, 1132; B.M.J. i./85,36; Pr. xxxiv.56.

Physiological experiments on animals.—B.M.J. ii./84, 1313; B.M.J. i./85,17,97,863.

In senile gangrene, the intense pain of, relieved by a 4 per cent. solution on contiguous parts. — B.M.J. i./85,653.

In coryza, 4 per cent. solution useful applied on cotton wool.—B.M.J. i./85,430,1084.

The mydriatic effects on the iris, and on the tension of the eyeball, caused by its local application.—B.M.J. i./85,1303.

The painless removal of urethral caruncles.—B.M.J. ii./85,153; and of epithelioma.—L. i./87,56.

In obstetrics, several valuable applications.—Pr. xxxiv.65, L. ii./87,751,1061.

The oleate is useless, except for sores on penis and anus —Pr. xxxiv.451.

Hypodermic injections apt to be followed by faintness. —Pr. xxxiv.450.

Gonorrhœa, acute, 2 per cent. solution injected relieves the pain.—Pr. xxxiv.222.

Rectal and prostatic pains relieved by ½ grain suppositories.—Pr. xxxiv.128.

Summary of its effects on the eye, viz., dilatation of pupils, constriction of small peripheral vessels, paralysis of accommodation, and enlargement of the palpebral fissure; the effect is local only, by paralysing the endings of the sensory nerves, and irritating the sympathetic nerves.—Pr. xxxiv.1.

Dysmenorrhœa, the pain of, removed by painting the cervix with 4 per cent. solution.—B.M.J. ii./85,399.

After lithotrity, ½ an ounce of 4 per cent. solution injected for painless removal of fragments.—Pr. xxxiv.128.

In labour pain attending the dilatation of the os in primiparæ relieved by painting the os and cervix with 12 per cent. solution.—B.M.J. ii./85,473.

In supra-orbital neuralgia, a 10 or 20 per cent. solution in oil of cloves rubbed into the part affords immediate relief; with summary of its medical uses.—Pr. xxxiv. 59; M.R. 1884,516.

In sea sickness, several cases, $\frac{1}{16}$ grain doses every two or three hours in aqueous solution were successful. A girl of 18 had been sick 24 hours before it was tried; she had a double dose every half-hour with "truly magical effect."—L. ii./85,451; B.M.J. ii./85,627.

German and Russian recommendations of its use in sea sickness.—L. ii./85.912.

Sea sickness effectually checked by two lozenges each containing $\frac{1}{12}$ grain of hydrochlorate of cocaine taken when first threatened and two more in twenty minutes. One-grain doses in solution also effectual.—P.J. 1886,712; B.M.J. ii./87,1236.

Thimble-shaped pessaries, composed of cocaine and oil of theobroma, relieved the pains of the first stage of labour, when inserted into the dilated os uteri.—B.M.J. ii./85,1140,1159.

Morphine habit of three years' standing, 8½ grains taken during three days was successful in curing.—B.M.J. ii./85, 1112.

Poisonous effects attributed to use in fourteen eye cases and three hypodermic injections.—B.M.J. ii./85, 983.

Cases of fainting when solution of cocaine salt was applied to the eye.—B.M.J. ii./85,1060.; i. /86,67.

In eye operations, the diminished elasticity produced y cocaine may cause inconvenience.—L. ii./85, 1158.

Dangers from use of cocaine in eye cases supposed to be due to decomposition accompanying fungoid growth. Graefe recommends the cocaine salt to be dissolved in solution of mercuric chloride 1 in 20,000.—L. ii./85, 868,996,1070,1119,1167; B.M.J. ii./85,971,1184.

Sterilizing solution by boiling recommended.—Amer. Drug. 1886,29.

Cocaine craving, 5 to 7 drachms per day of 4 per cent. solution caused a state of system allied to delirium tremens.—L. ii /85,732.

Facial neuralgia relieved by quarter of a grain of salicylate of cocaine.—L. ii./85,733.

Hay fever.—L. ii./85,820; B.M.J. ii./86,18; i./88,1329.

Hydrocele, medical cure of, a preliminary injection of cocaine solution before the injection of iodine recommended.—L. ii./85,829.

Earache, a 2 per cent. solution of the hydrochlorate on wool is useful.—B.M.J. i./86,87.

Toe-nail ingrowing, removal of, local injections should precede.—B.M.J. ii./85,1060.

Larynx painted with 20 per cent solution, a state of spasm was caused which required chloroform to subdue it.—L. ii./85,946.

Whooping-cough, 15 to 20 per cent. solution a valuable pigment to the larnyx.—B.M.J. ii./85,981,992.

For removal of a pile, after bathing it with hot water, some dry hydrochlorate was dusted over it, and one grain injected into its base; in 10 minutes after on applying the clamp and cautery, it was painlessly removed; the patient was next day able to attend his business: also found useful in many minor operations.—L. i./86, 527; B.M.J. ii./86,586.

General résumé of its effects and uses. - B.M.J. i./86, 527,571. Chemical researches by Paul.—B.M.J. i./88, 709.

Thigh successfully amputated under the influence of Cocaine, 1 per cent. solution injected into the skin and a half per cent solution into the deeper parts; only during the sawing of the bone did the man complain of pain.—L. i/86,561, *ex Med.Jour.* N.Y. Feb. 20th.

Apply a 5 per cent. solution to urethra previous to dilatation by instruments.— B.M.J. ii./86,413.

Asthma much relieved by hypodermic injections of 6 grains of the salicylate.—B.M J. ii /86,117.

Angina pectoris, ½ grain three times a day.—L. ii./86, 159.

In dentistry is of doubtful advantage, there is some danger, the gums do not absorb it —L. ii./86,1190.

Painless tooth extraction if a 15 per cent. solution be injected into the gum.—B.M.J. ii./86,601.

Several cases of dangerous symptoms following its use in surgery.—L. i./87,780; St. Thomas Hosp. Rep. vol. xv.

Thirty cases of danger narrated, chiefly following its hypodermic use.—Th. Gaz. Jan. 1888,16.

Morphine and nitrite of amyl are the best antidotes. —B.M.J. i./88,757.

No harm known to follow a 4 per cent. solution for eye purposes.—B.M.J. ii./86,451.

Perchloride of mercury added to solutions of cocaine salts causes irritation of eyes.—B.M.J. ii./86,259.

Vomiting of pregnancy relieved by internal use.—L.ii/87,754, and for sore nipples, 1061; B.M.J. ii/87,94.

Camphor 5, chloral 5, cocaine hydrochlorate 1, warmed, form an oily liquid which cures toothache.—L. ii./86,324.

Slight pains, especially spasmodic, relieved by injection of a 20 per cent. solution into urethra.—L.i./88,871.

Two cases of poisonous symptoms following the injection of 1 grain in 20 minims into gums, previous to tooth extraction.—L i./88.872.

Lithotrity rendered painless by the injection of 16 grains dissolved in 12 ounces of warm water into the bladder.—B.M.J. i./88,972.

CODEINA.

Codeine.

Dose.—¼ to 2 grains.

An alkaloid from opium, generally in large prisms slightly brownish in colour. Soluble 1 in 80 to 100 of water, very soluble in diluted acids, in alcohol, and in excess of aqueous ammonia, but insoluble in excess of potash solution. It is a methylic ether of morphine,—monomethylmorphine,—and has been synthetically prepared from it by the action of iodide of methyl and alcoholic caustic soda solution. It has a slightly bitterish taste. In moderate doses is a hypnotic, and in small doses frequently it allays cough in phthisis. In diabetes it lessens the amount of sugar in the urine. For **hypodermic injection Phosphate of Codeine,** which contains 70 per cent. of alkaloid, and is soluble in 4 parts of water, is the most suitable salt.

Hypodermic Lamels are also prepared, containing ¼ grain Codeine combined with gelatine.

Codeine and Glycerine Jelly (S. Hardwick).

Dose. 1 drachm.

Codeine	72 grains.
Citric Acid	720 grains.
Refined Gelatine	6 ounces.
Glycerine	36 ounces.
Oil of Lemon	1 drachm.

Balsam of Tolu and Distilled Water, of each *q.s.*

Boil the Tolu in water as ordered in B.P. for making syrup of tolu; of the liquor so prepared take 30 ounces; in 25 ounces of it soak the gelatine, heat till it is dissolved, and add the glycerine. In the remaining 5 ounces of liquor dissolve the Codeine and citric acid, add the solution to the above, add also the oil of lemon, stir well together, and pour into bottles to "set." Useful in chronic laryngitis, phthisical cough, &c. — B.M.J. i./84,761.

Pastillus Codeinæ, ⅛ grain in each.

Pilula Codeinæ Composita.

Codeine	¼ grain
(increased to 2 grains if necessary).	
Extract of Nux-vomica ...	½ grain.
Extract of Lettuce . .	½ grain or more.

Make one pill, to be taken two or three times a day, for diabetes.

Syrupus Codeinæ.

Codeine	1 grain.
Diluted Phosphoric Acid	2 minims.
Distilled Water	8 minims.

Dissolve and add

Syrup to...	1 ounce.

Dose.—A teaspoonful for coughs.

Trochisci Codeinæ contain ⅛ grain in each.

References.

Sleep produced by it is not followed by the heaviness of that from morphine. L. i./66,250.

Syrup useful in troublesome cough, especially phthisical.—B.M.J. i./79,546; Pr. xxiv.447.

In diabetes, doses of ¼ to ½ a grain three times a day at first, the dose being increased gradually until sugar disappeared from the urine or increasing drowsiness demanded its discontinuance.—B.M J. ii /81,474.

In diabetes considered to be of greater service than the other constituents of opium. as it does not produce the same narcotic effect as opium and morphine.—Guy's Hosp. Rep. xv.420.

Diabetes mellitus, 3 cases recorded with marked improvement. Codeine should be given at once, and in fairly large doses, until some physiological effect is produced. Even dieting appears to sink in significance by the side of Codeine.—B M.J. i /82,933.

In bladder troubles, complicated with enlarged prostate, Codeine is a useful sedative when other opiates fail.—B.M.J. i./84,802.

Of special use in abdominal pains, threatened abortion, and asthma.—B.M.J. i./88,1213,1382.

COLCHICIN.

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ grain in a pill.

The active principle of the meadow saffron, *Colchicum autumnale.* A yellowish micro-crystalline powder, does not combine with acids except tannic acid, is soluble in alcohol and chloroform, less so in ether and water. Of use in acute gout, rheumatic gout, asthma, cerebral congestion, and uræmia.

In chronic rheumatism, apply hypodermic injections of $\frac{1}{32}$ grain in 15 minims of water.—M.T.G. 1/77,463.

In neuralgic joint affections, and rheumatic ischiagra, $\frac{1}{32}$ gr. hypodermically injected succeeded.—Pr. xxiii.458.

Toxicological action—it affects the gastro-intestinal mucous membrane, causing severe pains in the bowels, of the nature of colic, vomiting, diarrhœa, intense thirst, and violent burning in the throat, œsophagus, and stomach.—B.M.J. ii./79,1024.

Preparation and chemical properties.—P.J. 1881,498.

Report on its action as a diuretic, and purgative in larger doses.—B.M.J. i./87,688 ; L. i./86,369.

COLLODIUM.

Collodion (*Off.*). *Syn.* CONTRACTILE COLLODION.

Pyroxylin 1, Rectified Spirit 12, and Ether (Sp. Gr. 0·735) 36. Pure ether answers better.

Anodyne Colloid. *Syn.*—AMYL COLLOID.

Hydride of Amyl*	1 ounce.
Aconitine	1 grain.
Veratrine	6 grains.
Collodion to	2 ounces.

For neuralgia, sciatica, lumbago, all muscular pains, &c. The amyl by its rapid volatilization often produces almost instantaneously the desired result; but should the pain continue the alkaloids can be brought into activity by applying a piece of moist spongio-piline over the collodion film.—B.M.J. ii./72,677.

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* *Syn.*—**Pentyl Hydride ; Pentylene ; Hydramyl.** Obtained by the fractional distillation of petroleum spirit. It is the lightest liquid of the petroleum series ; Sp. Gr. 0·625 to 0·649, boiling point about 86° F. It is very inflammable ; can be inhaled without irritation, and will produce general anæsthesia ; locally, it is not absorbed, but rapidly freezes the part. An impure variety is known as **Rhigolene** in America. —L. i./85, 75,101 ; M.T.G. ii./71,373,492.

Celloidin is guncotton purified by solution in alcohol and ether; is used similarly to pyroxylin, and makes a clearer solution; especially adapted for embedding microscopical specimens. **Photoxylin,** a nitro-cellulose prepared by nitrating wood wool, is soluble in a mixture of equal parts of alcohol and ether. A 3 to 5 per cent. solution is said to leave a very tough film. Used to form artificial tympana.

Collodium Cocainæ.—See p. 139.

Collodium cum Oleo Crotonis.

Croton oil 1 part mixed with 7 parts, more or less as required, of Flexible Collodion, forms a useful counter-irritant; a thin layer painted on quickly dries, and its action is limited to the spot to which it is applied.

Collodium Flexile (*Off.*).

Contractile Collodion 1 ounce, Canada Balsam 20 grains, Castor Oil 10 minims; makes a more elastic film than Contractile Collodion.

Collodium Iodi.

30 grains of Iodine, more or less if required, to the ounce of Flexible Collodion, forms a coating which, on account of the iodine not being so readily volatilized as from an application of the liniment, sustains the action of the iodine and the film protects the part.

Collodium cum Iodoformo.—See Iodoform, p. 222.

Collodium Salicylicum.

Salicylic Acid	100 grains.
Flexible Collodion, ¾ strength	1 ounce.

Dissolve; for use on exposed parts like the next preparation.

Collodium Callosum.

Salicylic Acid	60 grains.
Extract of Indian Hemp ...	8 grains.
Flexible Collodion, ¾ strength	1 ounce.

Dissolve. Applied daily, this forms a rapid and painless solvent for corns and warts.—L.ii./83,951; B.M.J. ii./83,1071.

The following more active preparation is similarly used; both preparations have proved useful in epithelioma.

Collodium Salicylicum cum Zinci Chlorido.

Salicylic Acid	60 grains.
Chloride of Zinc	30 grains.
Collodion	1 ounce.

Dissolve, forms a clear solution. 1 of Chloride of Zinc forms an imperfect solution in 6 of Collodion (with some chemical change probably).

Perchloride of Mercury to the extent of 16 grains or more to the ounce of Salicylic Collodion may be used to warts of a specific nature.

Collodium Salicylicum et Lacticum.

Salicylic and Lactic Acids, of each 10, Collodion 80. Lactic Acid, being destructive to morbid growths, is said to increase the efficacy of this preparation.

Collodium Stypticum. *Syn.*—**Styptic Colloid.**

Tannic Acid (soluble) ...	10 parts.
Rectified Spirit	10 fluid parts.
Benzoin	1 part.
Dissolve, strain, and add	
Ether, Sp. Gr. 0·720 ...	40 fluid parts.
Gun Cotton	2 parts.

Mix, set aside two or three days, and decant.

Forms a useful application in checking various forms of hæmorrhage when it can be brought in contact with the bleeding surface.

Collodium Vesicans.—See Cantharis, p. 108.

CONINA.

Conine. *Syn.*—CICUTINE; CONICINE.

Dose.—¼ grain, increased gradually to 2 grains.

A liquid alkaloidal principle, almost colourless, and having a penetrating empyreumatic odour, obtained from hemlock, *Conium maculatum*. It is slightly soluble in water. Has been prepared synthetically from *a*-Picoline. Commercial Conine has in combination two other principles, Conhydrine and Methyl Conine, which the following salt is free from.

Coninæ Hydrobromas.

Dose.—½ grain, increased gradually to 2 grains.

In colourless crystalline prisms, resembling sulphate of magnesium in appearance. Soluble 1 in 8 of water.

Injectio Coninæ Hydrobromatis Hypodermica.

Hydrobromate of Conine ...	1 grain.
Distilled Water	20 minims.

Dose.—1 to 3 minims.

Pessus Coninæ (Hosp. for Women).

Conine	½ minim.
Gelatine Mass	20 grains.

Make one pessary.

Pilula Coninæ Hydrobromatis.

Hydrobromate of Conine ⅓ grain in each.

Vapor Coninæ (*Off.*).

Juice of Hemlock	½ ounce.
Solution of Potash	1 drachm.
Distilled Water	1 ounce.

Put 20 minims on the sponge of a suitable apparatus to inhale.

References.

Conine is most suitable in acute mania without organic brain disease, ½ minim of Conine given hypodermically is equal to one drachm Succus Conii.—Rank. ii./72,119, *ex* West Riding Lunatic Asylum Med. Rep. vol. ii.

Hydrobromate of Conine is useful in neuroses and spasmodic affections of chronic bronchitis.—Pr.xxiii. 202,212. Traumatic tetanus cured.—Th. Gaz. 1888, May, 330.

In epilepsy, dose of ¼ to 1½ grains recommended.—L. ii./84,32; Pr. xxxii.431.

Physiological action of the colourless Hydrobromate is like that of curare, but it does not act at all on the central nervous system like commercial liquid Conine; the latter contains two alkaloids.—L. ii./80,778.

Large doses, 2 to 4 drachms, of Succus Conii useful in Chorea.—L. i./83,905.

Hydrobromate of Conine acts chiefly as a direct sedative to the respiratory centre; in poisonous doses death is caused by asphyxia. It is employed with advantage in all spasmodic affections, especially those of the respiratory organs; and in neuralgia commence with 1½ grains but not exceed 4½ grains per 24 hours.—Pr. xxviii.136.

For pruritus ani, an ounce of lanolin with 2 ounces of succus reduced to 2 drachms gives relief.—Pr.xl.250.

CONVALLARIA MAJALIS.

Lily of the Valley.

The flowers, as well as the whole plant of this, form an old remedy for dropsy in Russia. In functional and organic disease of the heart, an infusion of 10 grains in 6 ounces of water, of which half an ounce twice a day for two or three days lessens the irritability and peevishness. The effect will continue for from 5 to 9 days without producing dyspnœa or palpitation. Under this treatment the patient can take bodily exercise without discomfort.—Edin. Med. Jour. xxvii.645; P.J. 1883,1058.

Two glucosides have been obtained from the plant: convallarin, convallamarin, and a principle found in the flowers only.

Convallarin, a pale brownish white powder, soluble in alcohol, but insoluble in water; in dose of 3 or 4 grains, only has a purgative effect.

Convallamarin. *Dose.*—½ to 2 grains.

A pale, whitish brown amorphous powder, soluble in water and alcohol; is said to contain the active properties of the drug. It acts principally on the heart. Physiologically its action approaches that of digitalin, helleborin, &c. Death is produced by stoppage of the heart, and nearly always accompanied by intense clonic convulsions.—P.J. 1882,423.

Convallamarin is the more active preparation; only one dose should be given daily, on account of its cumulative action; it probably acts directly on the muscular tissues of the heart, more slowly than digitalis, but is more persistent in its influence; is contra-indicated in advanced heart disease where the muscular structure is altered.—L. ii./84,418.

Extractum Convallariæ. *Dose.*—2 to 8 grains.

An aqueous extract of flowers and stems, with one-third of roots and leaves, is said to be most active.—P.J. 1883,143.

Extractum Convallariæ Fluidum.

Dose.—2 to 10 minims; 1 = 1 of flowers.

Tinctura Convallariæ, B.P.C.

Dose.—5 to 20 minims; 1 of flowers in 8 of proof spirit.

Convallaria is a powerful diuretic, irregularity of heart's action is lessened, used in mitral and aortic regurgitation, dilatation of the heart, senile hypertrophy, chronic pericarditis, anæmia, and diabetes.—L. ii./82,327.

In all forms of heart failure it is useful, and has none of the nauseating effects of digitalis. It promotes a stronger ventricular contraction, and does not exhaust the contractility of the heart and arteries.—L. i./83, 185.

Editorial Notes on.—It exerts no deleterious effects, takes the place of digitalis in organic heart disease, relieves promptly without danger of overdose or cumulative action.—B.M.J. i./83,568.

Action of convallaria not identical with that of digitalis; a small dose should be commenced with. —L. ii./83,24.

In a case of mitral obstructive disease, Liq. Ext. m.x. 4tis horis, et P. Jalap. Co. 60 grains, o.n., improved action of heart, increased the urine, and œdema of legs and ascites disappeared.—Pr. xxxii.265.

COTO CORTEX.

Coto Bark.

Dose, in powder, 1 to 8 grains 4 to 6 times a day.

Coto Bark, imported from Bolivia, has been used for diarrhœa, gout, and rheumatism. It is rich in resinous principles, which give it a pungent taste.

Extractum Coto Liquidum.

One ounce = one of bark.—*Dose.*—2 to 6 minims.

Tinctura Coto, B.P.C.

Coto Bark, bruised	1 ounce.
Rectified Spirit	*q.s.*

Macerate 7 days, press, filter, and add rectified spirit *q.s.* to produce 10 ounces.

Dose.—10 minims, with mucilage and syrup to suspend, every 2 hours, in diarrhœa.—P.J. 1875,301.

Cotoin. Obtained from Coto Bark.

Dose.—½ to 2 grains every 2 or 3 hours, diffused in water by means of mucilage or syrup, for stomachic catarrh and phthisical diarrhœa, causes a reduction of the febrile symptoms and night sweats.

Cotoin is a pale yellow amorphous powder, or in minute curved crystalline prisms, non-volatile, slightly soluble in water, soluble in alcohol, ether, and chloroform, caustic and carbonated alkalies. It has a bitter taste, and the dust is irritating to the nostrils.

For hypodermic injection a solution 1 in 4 of acetic ether is recommended as having a specific action on the bowels in cholera, 15-minim doses to be given every quarter of an hour to every hour.—P.J. 1883,62.

Paracotoin. Obtained from Paracoto Bark, a bark allied to Coto Bark.

Dose.—1½ to 3 grains every 2 or 3 hours in chronic and acute stomachic catarrh and Asiatic cholera.

Paracotoin is in minute laminar crystals, paler than cotoin. Soluble in ether, chloroform, boiling alcohol, and somewhat in boiling water, but from this it separates on cooling. It appears to be a weaker Cotoin.

Elixir of Coto, very beneficial in cases of infantile diarrhœa—6 to 12 drops every 3 hours.—Pr. xxii.61.

In diarrhœa of phthisis, 5 to 8 minims of fluid extract of Coto found useful. Must not be combined with mistura cretæ.—Pr. xxiii.257.

Checks night sweats in incipient phthisis.—L. ii./81, 318; B.M.J. ii./81,727.

No drug equal to Cotoin in the treatment of diarrhœa of all kinds, especially that of phthisis; it checks salivation and night sweats.—M.R. 1883,16.

COUMARINUM.

Coumarin.

Dose—?

A neutral crystalline principle in colourless rectangular plates, may be obtained from Tonka or Tonquin beans, the fruit of *Coumaruma odorata*, is also found in the woodruff *Asperula odorata*, *Melilotus officinalis*, *Anthoxanthum odoratum*, &c., but it is now manufactured synthetically from Salicylol, or Salicylic Aldehyde. It is almost insoluble in cold water, but readily soluble in hot, dilute acids, and alcohol, has an agreeable aromatic odour, a burning taste, sublimes unchanged, and the vapour acts very strongly on the brain. 1 part to 50 of iodoform has been employed to disguise the odour of the latter.—See Iodoform, p. 222.

CREASOTUM (*Off.*).

Creasote. *Syn.*—Kreosote, Creosote.

Dose.—1 to 3 minims.

Obtained from wood tar, soluble in alcohol, ether, glacial acetic acid, fats and oils, insoluble in glycerine, sparingly soluble in water—about 1 in 1,000. Two kinds of genuine Creasote are met with in commerce—Hydrated Creasote, which keeps stable and almost colourless, but makes a cloudy mixture with oil of turpentine, and—Anhydrous Creasote, which, although liable to turn brown, mixes perfectly with oil of turpentine. As Creasote coagulates albumen in solution, it acts locally as a caustic. It is one of the most powerful deodorisers, antiputrescents, and antiseptics. It is used to correct fœtor, given to check sickness, added to cod-liver oil for phthisis, and externally in various skin diseases.

For irritable trachea and congested larynx, causing troublesome cough, the dry inhalation of creasote on an oro-nasal inhaler is very useful.

Mistura Creasoti (*Off.*).

Dose.—1 to 2 ounces.

Contains 1 minim of Creasote in an ounce. It is not a satisfactory preparation, as the Creasote does not dissolve perfectly.

Pilula Creasoti (Martindale).

Creasote	2 drachms.
Curd Soap, in powder ...	120 grains.

Put the Creasote in a 1-ounce wide mouth stoppered bottle, add the soap, and mix well. Then digest in a water bath till they combine. Each 2 grains of the mass will contain, as nearly as possible, 1 minim of Creasote.—(P.J. 1878,681.)

Dose.—2 to 6 grains.

The writer has found this mass the most convenient for giving Creasote in pills. It combines with other ingredients without decomposition. Calcined magnesia and slaked lime, sometimes recommended as excipients, form compounds with Creasote perfectly insoluble and indigestible. Care should be taken not to mix oxide of silver directly with pure Creasote, else deflagration will occur; but oxide of silver may be mixed with the above mass, although it is not advisable to prescribe the two drugs together in a pill.

Pulvis Creasoti et Amyli.

Creasote	10 minims.
Starch, in powder... ...	1 ounce.

Mix well. It is used as a dusting powder in erysipelas.

Unguentum Creasoti (*Off.*).

Creasote 1 drachm, mixed with 1 ounce of simple ointment.

Unguentum Creasoti Forte, B.S.H.

Creasote . . .	6 drachms.
Yellow Wax	180 grains.

Melt, and stir till cold. Used in psoriasis. **Caution.**—Should not be applied to the belly, face, or flexor surfaces of the limbs.

Vapor Creasoti, T.H.

Creasote	80 minims.
Light Carbonate of Magnesium	30 grains.
Water to	1 ounce.

A teaspoonful in a pint of water at 140° F. Useful in chronic congestion of the larynx and trachea, and in ozœna, fœtor of breath in bronchitis, gangrenous lung, and syphilitic throats.

Creasote lessens cough and expectoration in phthisis. 1 in 40 of rectified spirit, of this a teaspoonful twice a day; also in 1 or 2 minim doses in solution in cod liver oil or in troches with balsam of tolu —Pr. xxii.380; Pr. xxvi.296; L. i./88,187; B.M.J. i./88,548.

Oro-nasal Inhalations.—Creasote, or a mixture of equal parts of Creasote and Carbolic Acid, is employed to medicate respirators.

Used for antiseptic inhalation for phthisis dropped on respirator.—L. ii./77,598.

Creasote 3 parts with carbolic acid one part dropped on the cotton wool of the naso-oral respirator recommended for continuous local medication in phthisis. —L. ii./80,870; Pr. xxix.94; B.M.J. ii./81,813.

Creasote used to medicate the respirator. It is more sedative in its action if mixed with an equal volume of spirit of chloroform, 5 to 15 or 20 minims dropped on the cotton wool at one time.—B.M.J. ii./82,7.

Creolin. A dark alkaline liquid prepared from coal tar, forming a white emulsion with water, is recommended as a deodorising antiseptic. For lotions, 1 to 100 to 500 of water.—L. i./88,540.

Dose—1 to 5 grains. Is a nostrum.

Guaiacol. *Dose.*—½ to 2 minims. May be obtained by the destructive distillation of guaiacum resin, and is contained in beech creasote to the extent of 60 to 90 per cent. It is a methyl ether of pyrocatechin, and, when pure, is a colourless refractive liquid of Sp Gr 1 1171, boiling at 200° C It is soluble in alcohol, ether, fats, oils, and glycerine, but only slightly soluble in water Its taste and odour resemble, but are more agreeable than, those of creasote Its alcoholic solution gives an emerald green coloration with perchloride of iron It is useful in phthisis particularly in incipient stages and rarely disagrees It may be given thus Guaiacol, 1 part Water, 180 parts Rectified Spirit 20 parts *Dose* —1 to 4 drachms in water twice or thrice daily after meals It may also be given in cod liver oil which disguises the taste or the following Guaiacol 13 5 Tincture of Gentian 30 Rectified Spirit 250 and Sherry to 1,000, two teaspoonfuls two or three times a day in water.

CUCUMIS.

Cucumber —The juice of the fruit of *Cucumis sativus*, is in French Codex to prepare

Unguentum Cucumeris

Syn Pomatum cum succo Cucumeris sativi
Fr Pommade aux Concombres

Cucumber Juice	1200
Lard	1000
Veal Suet	600
Balsam of Tolu in S V R *q s*	2
Rose Water	10

F s a It is a cooling ointment, used like cold cream

CURARA

Curare. *Syn* — Ourari Urari, Wourara Wourali *Dose* — [illegible] to [illegible] grain

The South American Indian arrow poison, produced from species of *Strychnos* and other plants A blackish brown coloured, dry extract, with a bitter taste, contains some resin, but is nearly all soluble in water.

Curarinæ Sulphas, Curarine Sulphate.

A salt of the active principle of Curare, very deliquescent and a most powerful poison In toxicological research, Curarine, like strychnine, with sulphuric acid and bichromate of potassium, is coloured first blue, then violet, and later on cherry-red, but the transition is slower than with strychnine; sulphuric acid alone imparts a red colour to solutions containing Curarine, it has no effect on strychnine. The physiological test for Curarine is more valuable.—B.M.J. ii./79,1025.

Injectio Curare Hypodermica, B.P.C.

Curare, in powder, 5 grains; Distilled Water, a sufficient quantity. Add to the Curare distilled water *q.s.* to form a thin paste, transfer to a funnel plugged with absorbent wool, and gradually add more water until one drachm is obtained.

If required in haste, to the five grains of Curare reduced to powder add one drachm of distilled water, throw on a filter, and when the liquor ceases to drop pour over the contents of the filter distilled water sufficient to produce one drachm.

Dose.—1 to 6 minims.

Hypodermic Lamels are also prepared, containing $\frac{1}{100}$ grain Curarine in each combined with Gelatine; also with $\frac{1}{20}$ grain of Curare.

Used to paralyse muscular movements in experiments on biliary secretions of dog, in dose of from 0·02 to 0·06 gramme of Curare.—Pr.xxiii.327.

In hydrophobia, a case cured by $\frac{1}{3}$ to $\frac{1}{2}$ grain, hypodermically, repeated about every half-hour, as required, to allay the spasms, until these ceased entirely, and paralysis of all voluntary movements became apparent.—M.T.G. ii./77,396.

Its botanical sources and varieties.—P.J. 1880-81,491, 529,589,693,754.

Its use as a palliative in hydrophobia.—L. ii./81,624.

Cases of tetanus treated by hypodermic injections of Curare. To adults, 4 grains may be exhibited at intervals in the 24 hours, without danger to life.—Dub. Jour. Med. Sci. 1882,307.

CYPRIPEDIN.

Dose.—1 to 3 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Cypripedium pubescens*, Ladies' Slipper. It has a snuff-brown colour, and is given in nervous affections, hysteria, hypochondriasis, and is said to be useful in epilepsy.

DAMIANA.

The leaves of some species of *Turnera* are imported, and are recommended in the United States as possessing aphrodisiac properties.

Extractum Damianæ Liquidum is prepared, of which two drachms represent a drachm of the leaves. *Dose.*—1 to 2 drachms.

It is a nerve tonic of great value in sexual debility; useful also in hemiplegia and paraplegia.—Pr. xxiv.58.

Botanical source and history.—P.J. 1875,423,493,581.

For cases of melancholia this drug is found to be of service.—L. ii./87,604.

DATURINA.

Daturine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$ or more, in solution with diluted sulphuric acid.

An alkaloid obtained from *Datura Stramonium*. In crystals resembling atropine, but lighter and more feathery in appearance. That generally met with is the "light Daturine" of Ladenburg, and, according to him, it consists principally of pure hyoscyamine.—See Atropine, p. 79. The writer has found that the commercial Daturine was a stronger base than hyoscyamine, but weaker than atropine. It has allied chemical and physiological properties to atropine and hyoscyamine, and is used for ophthalmic purposes to dilate the pupil, &c. The salt **Daturinæ Sulphas** is generally employed. It is in minute, white, granular crystals, readily soluble in water.

Guttæ Daturinæ, R.O.H.

Sulphate of Daturine ..	2 grains.
Distilled Water	1 ounce.

Ophthalmic Discs, containing $\frac{1}{5000}$ grain of Sulphate of Daturine in each combined with Gelatine, are prepared.

Given to a patient suffering from acute mania, it acted like hyoscyamine and atropine in producing sleep.—R. and Pr. xviii.166.

DELPHINA.

Syn.—DELPHIA, DELPHINE.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ grain in a pill, with glycerine of tragacanth, every 3 or 4 hours.

A white or brownish white amorphous alkaloid obtained from seeds of stavesacre, *Delphinium Staphisagria*, and of larkspur, *Delphinium consolida*. Almost insoluble in water, soluble in alcohol, ether, and dilute acids. It is a heart poison.

Has been given internally in doses as above, in dropsy and spasmodic asthma. Locally 10 to 30 grains to an ounce of rectified spirit, or an ointment containing the same quantity causes tingling and transient redness like veratrine; useful in neuralgia, earache, and toothache.—Stillé and Maisch.

Oleum Staphisagriæ.—The expressed oil of the seeds.

One to 6 or 12 parts of perfumed olive or almond oil effectually kills pediculi of all kinds. Remove nits with a mixture of vinegar and proof spirit.—M.P.C. i./85,551.

Unguentum Staphisagriæ (*Off.*). — Stavesacre Seeds 1, digested in Benzoated Lard 2, in a water bath for 2 hours, and strained through calico.

DIGITALINUM.

Digitalin. *Syn.*—DIGITALINE AMORPHE (Codex).

Dose.—$\frac{1}{60}$ to $\frac{1}{30}$ grain in a pill.

The Digitalin of Homolle is met with in commerce as an amorphous yellowish-white powder or small scales, inodorous but irritating to the nostrils, is intensely bitter and poisonous, and possesses the well-known properties of the foxglove, *Digitalis purpurea*, from which it is obtained. It consists of a mixture of Schmiedeberg's digitalin with some digitoxin. Is used to lessen fever and acute inflammation, also in heart disease with rapid weak pulse, and for cardiac dropsy, for internal hæmorrhages, delirium tremens, and spermatorrhœa.

Granules de Digitaline (Homolle).

Dose.—2 to 4 or 5 in 24 hours.

Are much used in France. Each granule contains a milligramme ($\frac{1}{65}$ grain) of Digitalin, equal to about 1½ grains Digitalis leaves.

Crystallised Digitaline (Nativelle's), *Digitaline cristallisée* (Codex). *Dose.*—$\frac{1}{80}$ to $\frac{1}{30}$ grain in a pill.

Is in light, white crystalline tufts of needles, very bitter; insoluble in water and ether, soluble in chloroform and rectified spirit. It consists almost entirely of Schmiedeberg's digitoxin, and is cumulative in its action. Should not be dispensed unless crystals are ordered.

Digitalein (Schmiedeberg), an amorphous glucoside, soluble in water, possesses active properties like the above, and is suitable for making hypodermic injections; given in the same dose as Digitalin, and said to be non-cumulative. **Hypodermic Lamels** of this are prepared containing [redacted]n each combined with gelatine.

Digitalin (Schmiedeberg), a cryst oside, insoluble in water.

Digitoxin (Schmiedeberg). — This most poisonous of the digitalis principl umulative. It crystallizes from alcoh, is insoluble in water, and sparingly soluble in ether.

References to Digitalin.

Physiological and therapeutical experiments.—M.T.G. i./55,382.

Is 120 times as strong as Digitalis, given in delirium tremens in doses of $\frac{1}{80}$ to $\frac{1}{30}$ grain.—M.T.G. ii./61,106.

Case of poisoning by, with recovery.— L. i./80,166.

Use in heart disease. -B.M.J. ii./7.,148.

Antagonism to aconitine.—B.M.J. Rep. 1877,89.

Hypodermic injection of 1 in 500 of equal parts alcohol and water, in dose of 8 minims, acts well.—B.M.J. i./78,535.

Physiological effects on blood vessels. —L. ii./81,886.

Is an irritant to the skin, mucous membranes, hypodermically, and even to the stomach; produces diuresis only in dropsies due to disorders of circulation. Small doses slow the pulse and increase cardiac energy.—L. ii./84,25.

DUBOISINÆ SULPHAS.

Duboisine Sulphate.

Dose.—$\frac{1}{120}$ to $\frac{1}{30}$ grain.

The Sulphate of Duboisine, an alkaloid obtained from Pituri, the leaves of *Duboisia myoporoides.* The salt is usually met with in amorphous whitish granules, very hygroscopic and readily soluble in water. The alkaloid Duboisine has been crystallized, but is not yet in commerce in this condition. According to Ladenburg, it is identical with pure hyoscine (see Atropine) and isomeric with atropine, but it appears to possess more powerful physiological properties than the latter as found in commerce.

Guttæ Duboisinæ Sulphatis, R.O.H.

Sulphate of Duboisine 1 grain to Distilled Water 1 oz.

Ophthalmic Discs are prepared containing $\frac{1}{5000}$ grain of Sulphate of Duboisine combined with Gelatine.

Chemical notes on its isolation.—P.J. 1878,787.

Physiological action. It dilates the pupil, dries the mouth, checks perspiration, causes headache and drowsiness, antagonises muscarine, on the eye it acts more promptly than atropine.—L. i./78,304.

Eight cases of toxic symptoms, giddiness, delirium, and dryness of the mouth from use of eyedrops 4 grains to the ounce.—L. ii./79,353.

As a mydriatic is much stronger than atropine. Its use requires care it is apt to produce giddiness, &c., and even delirium. -L. ii./79,411.

Physiological properties and medicinal use as a mydriatic; a résumé.—B.M.J ii. 79,362.

Its action relative to atropine, physiologically, &c.—Pr. xxiii.246.

Therapeutic and physiological effects—Differs from atropine by the persistence and greater rapidity of its action on the muscle of accommodation; is a useful calmative in maniacal delirium; as a sedative ointment, 1 in 500 of vaseline applied night and morning is useful in inflammation of the cornea.—Pr. xxv.294.

Résumé of its physiological properties.--L. ii./81,806. B.M.J. ii./81,529, Trans. Med. Congress, 1881,i.511.

In exophthalmic goitre, $\frac{1}{120}$ grain 2 or 3 times a day gives great relief. B.M.J.i./83,958.

Delirium caused by instillation of $\frac{1}{100}$ grain solution into eye.—L. i./87,75.

ELATERIUM.

Elaterium (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

Is a powerful hydragogue cathartic, useful in renal or cardiac disease complicated with dropsy.

Tinctura Elaterii Composita.

Elaterium, in powder	1 grain.
Compound Tincture of Chloroform	1 ounce.

Dose.—10 to 30 minims.

It is preferable to add the chloroform (which is a re solvent of Elaterin) of the tincture first, macerate 2 d then add the rectified spirit and compound tinctur cardamoms, macerate 5 days more and filter. This paration is more active than a corresponding dose of powder.

Elaterinum, Elaterin (*Off.*).—*Syn.*—MOMORD

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

The neutral active principle of Elaterium, is in col less, hard, acicular crystals, insoluble in water, solubl chloroform and hot alcohol.

Pulvis Elaterini Compositus (*Off.*).

Dose.—½ to 5 grains. Consists of Elaterin 1, S of Milk 39.

ELIXIRS.

In America various medicines are administere this agreeable and popular mode. They are gene composed of a weak-flavoured syrup, with a fair pro tion of alcohol, which latter may account for much o esteem with which they are held. —P.J. 1874, 682.

Elixir Simplex, B.P.C.

Oil of Bitter Orange ...	30 minims.
Rectified Spirit .. .	6 ounces.

Dissolve and add.—

Distilled Cinnamon Water	7 ounces.
Syrup	7 ounces.

Mix. Filter through paper moistened with spirit, and well sprinkled with kaolin, returning the portions of filtrate until it passes through bright.

Dose.—20 minims to 1 drachm. This quantity be added to the ounce of any liquid medicine.

Elixir Bismuthi.

Citrate of Bismuth . .	160 grains.
Distilled Water	2 ounces.
Solution of Ammonia. .	2 drachms, or m needed to dissolve the bis

Dissolve, filter, and add
Simple Elixir to ... 10 ounces.
Dose.—1 drachm = 2 grains citrate of bismuth.

Elixir Camphoræ.—See p. 102.

Elixir Camphoræ Monobromatæ.—See p. 10

Elixir Cinchonæ.

Liquid Extract of Cinchona	1 ounce.
Simple Elixir	7 ounces.

Mix and filter.

Dose.—½ to 1 drachm.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.—See p. 192.

Elixir Guaranæ.—See Guarana, p. 204.

Elixir Phosphori. See Phosphorus, p. 287.

Elixir Rubrum.

Solution of Carmine (p. 110)	1 drachm.
Simple Elixir to	8 ounces.

Mix.

Dose.—20 minims to 1 drachm.

Gives an agreeable flavour and colour to liqu medicines, but is not compatible with acids.

Elixir Acidum (Haller's Acid Elixir).

Syn.—LIQUOR ACIDUS HALLERI (Danish P.).

Dose.—2 to 8 minims.

Strong Sulphuric Acid,
Rectified Spirit, of each equal weights.

Mix carefully and gradually.

Austrian P. has Liquor Acidus Halleri 1 to 3 spirit (weight); German P., Mixtura Sulfurica Aci 1 to 3 (weight); Codex, Acide Sulfurique Alcooli 100 to 300, and red poppy petals 4 (weight); and T.H Acidum Sulphuricum Alcoholisatum 15 to 105, and o of sage 1 (measure). In all these much of the sulphur acid is in the form of ethyl-sulphuric acid (sulphovin acid), which is more agreeable in taste than dilut sulphuric acid. If mixed with sweetened water, th form agreeable cooling drinks, useful in checking exce sive perspiration. Elixir of Vitriol, **Acidum Sulphu ricum Aromaticum**, B P. (sulphuric acid 1½ flu parts, added to rectified spirit 18 parts; with spirit cinnamon and essence of ginger of each 1 part), is weak form of the old Mynsicht's Elixir Vitrioli—this ethyl-sulphuric acid is formed on keeping, but n much while making. The preparation would be improved by carefully heating the mixture of acid and spirit to encourage the formation of the vinous acid.

EMBLICÆ FRUCTUS.

Emblic Myrabolan Fruit.

Dose.—One or two as required. The taste of the pulp is very agreeable.

The fruit preserved in sugar of *Phyllanthus emblica, Myrabolanus emblica, Emblica officinalis*, or Nilicamam (*Hindi*). It is used in India to excite the appetite, and taken after meals for atonic dyspepsia. In the fresh state, the fruit consists of a fleshy, acidulous pulp enveloping an angular nut. The pulp is rather austere, and is possessed of purgative properties.

The fresh juice is cooling, diuretic, and laxative. The confection promotes the appetite, and acts as a tonic. —Dutt's Hindu Materia Medica.

Tried carefully in several cases of habitual constipation; is a valuable addition to our list of laxatives. It may be taken at dinner or dessert. It is most valuable for children.—B.M.J. ii./82,173.

Confectio Emblicæ.

The fruit, pulped and freed from nuts, &c.

Dose.—1 or 2 teaspoonfuls.

EMETINA.

Emetine.—*Syn.*—Emetia.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain, as an expectorant; $\frac{1}{6}$ to $\frac{1}{3}$ grain as an emetic.

An alkaloid obtained from *Cephaëlis Ipecacuanha*, as met in commerce, is in pale, brownish-white, amorphous masses, sparingly soluble in water and ether; freely soluble in alcohol, chloroform, and dilute acids. It can be obtained in white crystals, which turn yellow exposed to sunlight. It is a biacid base, and a tertiary diamine like quinine, and probably a derivative of chinoline. It irritates the skin applied locally, producing pustules, like tartar emetic. Two grains suffice to kill a dog. It is a powerful emetic and depressent. Ipecacuanha yields about 1 to 1½ per cent. of Emetine.

Emetin—Extractive.

Dose.—Expectorant $\frac{1}{16}$ to $\frac{1}{10}$, emetic $\frac{1}{2}$ to 1 grain, in pill or solution.

An extractive substance, soluble in water, is a commercial article, must be distinguished from the above.

Trochisci Morphinæ et Emetin contain $\frac{1}{40}$ grain of Morphine and $\frac{1}{80}$ grain of Emetin in each.

Emetine is an emetic by reflex action, reduces the respiration and circulation, and it combats the convulsions caused by strychnine.—B.F.M.C.R. ii./74,247.

Physiological properties.—Its action seems to be limited to the peripheric extremities of the vagus nerve. —L. ii./74,532.; L. i./80,500.

ERGOTA.

Ergot of Rye (*Off.*)—*Syn.*- SECALE CORNUTUM.

Dose.—10 to 30 grains in recent powder infused in boiling water.

Extractum Ergotæ Liquidum, *Off. Dose*, 10 to 60 minims, 1 = 1 of Ergot.

Infusum Ergotæ, *Off. Dose*, 1 to 2 ounces, 1 = 40.

Tinctura Ergotæ, *Off. Dose*, 15 to 60 minims, 1 = 4.

Acidum Scleroticum.—See p. 175.

Ergotinum, Ergotin, or Ergotine (*Off.*).

Syn.—BONJEAN'S ERGOTIN.

Dose.—1 to 3 or 5 grains, in a pill (with althæa) or hypodermic solution.

The purified aqueous extractive of ergot. As found in English commerce, it is a dark-brown extract, having the odour of roast beef,—sometimes desiccated, and in brittle lumps, very hygroscopic, and freely soluble in water. It is given to check all forms of passive hæmorrhage.

Injectio Ergotini Hypodermica (*Off.*)

Ergotin 1 grain, in camphor water 2 minims.

Dose.—3 to 10 minims.

The writer prepares it of the strength of 1 grain *in* 2 minims; *dose*—2 to 8 minims. Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution.

Hypodermic Lamels are also prepared containing $\frac{1}{2}$ grain of Ergotin combined with gelatine.

Cases of aneurism—one subclavian and one radial cured by subcutaneous injection of Ergotin.—Pr. ii.310.

A dose given in the St. André Hospital, Bordeaux, after operations to lessen suppuration.—Pr. ii.61.

For hæmoptysis of tubercle, doses of 1 to 1½ grain, and in intestinal hæmorrhage of typhus.—M.T.G. ii./72,549.

Hæmorrhage, to check external or internal, especially in scrofulous persons.—M.T.G. i./74,537.

Epistaxis—hypodermic injection of, into the arm, of 3 grains in 10 minims of warm water, is found of the greatest success.—Br. i./75,308.

Epistaxis occurring in the course of a case of trichinosis, Ergotin used as a styptic, also suggested to be used as a killer of the trichinæ.—Pr. xxi.462.

Uterine fibroid, successful treatment of, by hypodermic injections deeply into the muscles of the buttock, of 2 to 5 grains of Ergotin, and 4 grain Ergotin suppositories; use of these continued 5 days previous to periods.—Pr. xxii.32.

Thèse, abstract of, on its hæmostatic action by hypodermic injection.—Pr. xxiv.130.

In erysipelas, 1 in 50 of water, locally applied, reduces the heat, pain, and swelling. B.M.J. ii./81,935.

In prolapsus ani, 3 to 4 grains, injected into the sphincter or prolapsus every 2 or 3 days, cured in a few weeks.—Pr. xxvii.369.; 2 Pr. xxx.453.

A dose of Ergotin, injected deeply into the gluteal muscles just before delivery, seldom fails to give perfect uterine contraction.—Br. i./81,lxviii.

Use in cerebral affections; Ergotin seems to have a powerful action over certain disturbances of speech in which patients utter words they do not intend to pronounce. M.R. 1882, 496.

In Pertussis, is without a doubt a valuable remedy.—Pr. xxviii.359.

Ergotin causes spasm of arterioles and rise of blood pressure, by acting directly on the vessels independently of the central nervous system.—B.M.J. i./84,97.

Ergotinina, Ergotinine.

A whitish amorphous alkaloid (can be with difficulty crystallized), insoluble in water, soluble in alcohol, ether, chloroform, and dilute acids; solutions in the latter readily decompose on exposure to the air, slight heat, or alkaline reagents; sulphuric acid with a trace of ether turns it to a yellow red, then blue violet colour. Ergotinine, 1; lactic acid, 2; chloroform water to 1,000, forms a **Hypodermic Injection** which is quick in action in dose of 5 to 10 minims, repeated if needed to the extent of 20 minims. It is costly.—L. ii./82,945.

Liquor Ergotæ Aceticus. *Dose.*—10 to 60 minims. An acid preparation, as U.S., 1860, but since discarded, is sometimes ordered. 1 = 1 of Ergot.—B.M.J. i./88,743,1148.

Liquor Ergotæ Ammoniatus. 1 = 1 of Ergot. *Dose.*—10 to 60 minims.

A preparation in which Ergot is exhausted by ammoniated proof spirit.

Pharmaceutically, it has been found that ammonia not only exhausts Ergot of its active medicinal properties, but also secures a uniform, stable preparation; whilst, therapeutically, the combination of ammonia and Ergot is indicated in some forms of post-partum hæmorrhage, &c.

A remarkably active preparation of the drug.—L. i./76,93; B.M.J. i./76,89.

A more efficient and reliable preparation, as powerful in action, if not more so, than the fresh infusion prepared from recently-powdered Ergot.—L. i.77,115.

Tinctura Ergotæ Ammoniata, B.P.C.—1 in 2 of Aromatic Spirit of Ammonia.—*Dose.*—10 to 60 minims.

Acidum Scleroticum, Sclerotic Acid.

Syn.—SCLEROTINIC ACID.

Dose.—½ to ¾ of a grain hypodermically.

This weak acid principle is, according to Dragendorff, the most active of a series of preparations he has obtained from Ergot. It is uncrystallizable, pale brown, darkening with age, is hygroscopic, and soluble in water.

Injectio Acidi Sclerotici Hypodermica.

One grain in distilled water to 6 minims.

Dose.—3 to 5 minims.

Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution, as it is prone to change.

Hypodermic Lamels contain $\frac{1}{16}$ grain **Sclerotic Acid** combined with gelatine.

As a hæmostatic Sclerotic Acid possesses all the virtues of Ergot. Injected hypodermically, it is preferred to Ergotin, as it causes no inflammation at the seat of puncture.

Accounts of its chemical preparation.—P.J. 1876, 1001; P.J. 1877,108.

Note on its physiological and therapeutic properties. It accelerates the intestinal peristalsis, and excites contraction both of the pregnant and non-pregnant uterus, pre-existing contractions being intensified. Not a powerful poison, 0·02 to 0·03 gramme being a dose by hypodermic injection.—M.T.G. ii./79,642.

ERYTHROPHLŒUM.

Casca Bark. *Syn.*—SASSY BARK; ORDEAL BARK.

The bark of *Erythrophlœum Guineense*, a leguminous tree, has an action resembling that of digitalin and picrotoxin combined. Its powder causes most violent sneezing, and it is a powerful poison. It contains an alkaloid—Erythrophlœine.—P.J. 1876,77.

Erythrophlœinæ Hydrochloras.—*Dose.*—(?)

In yellowish white granular crystals, readily soluble in water. The solution has an acrid, bitter taste. Has the combined action of digitalin and picrotoxin—5 milligrammes ($\frac{1}{13}$ grain) produced cramps, and was fatal to cats and guinea pigs,—for dogs a somewhat larger dose was required.—Archiv für exp. Path. u. Pharm. 1882,483.

Said to possess local anæsthetic properties, which has not been confirmed.—L. i./88,249,346; B.M.J. i./88, 345,604,661,662; Th. Gaz. 1888, March, 145, April, 246; Birmingham Med. Rev. 1888, May, 233. Toxic effects may follow.—B.M.J. i/88,1083.

In mitral disease and cardiac dropsy depending on it, it is a more powerful remedy than digitalis, its effect on the arterioles is greater, and is useful in dilated heart. — B.M.J. i./77,345,379; B.M.J. i./78,490; L. i./83,185. Physiological action.—Phil. Trans. Roy. Soc. clxvii. pt.2,627.

Tinctura Erythrophlœi, B.P.C.

1 in 10 of rectified spirit.—*Dose.*—5 to 10 minims.

Eserine.—See Physostigmina, p. 295.

ETHIDENI DICHLORIDUM.

Dichloride of Ethidene. *Syn.*—MONOCHLORETHYL-CHLORIDE; OR CHLORINATED CHLORIDE OF ETHYL.

A colourless volatile liquid possessing the odour and taste of chloroform. It is said to be identical with Chloride of Ethylidene, which is obtained as a bye-product in the manufacture of chloral, or may be made by the action of pentachloride of phosphorus on aldehyde, but a much more certain and uniform product may be obtained if made as the Monochlorethyl-Chloride, the preparation first used by Snow. It has Sp. Gr. about 1·2, boiling point 135° to 150° F. (147 2° Regnault.) It is isomeric with chloride of ethylene (Dutch liquid), but the boiling point and Sp. Gr. of the latter are higher. Dichloride of Ethidene is miscible in all proportions with pure ether, alcohol, and chloroform, soluble about 1 in 300 in water, being less so than chloroform.

It is a much safer anæsthetic than chloroform, but more costly.

It was used as an anæsthetic by Dr. Snow, who died while finishing his work on anæsthetics. He was taken ill while writing on this liquid, in the middle of a sentence he wrote his last word on the page. The word was "exit."—M.T.G. i./70, 642; P.J. 1870,3.

Compared with chloroform, Dichloride of Ethidene is pleasanter, more rapid in action, causes no excitement during nor after administration, more rapid recovery from it, and altogether there is less danger attending its use. Children require about 1 drachm, adults 4 or 5 drachms. Steffen in Binz.

A dog will live for a lengthened period in a state of complete anæsthesia under the influence of Ethidene Dichloride, whilst it will die in a short time when chloroform is used. The circulation is more easily re-established when the cessation is due to Ethidene than to chloroform, but not so quickly as when due to ether. Ethidene reduces the blood pressure by regular gradations, and not, as with chloroform, by sudden and unexpected depressions. Under the use of Ethidene, there was, on no single occasion, an absolute cessation either of the heart's action or of respiration, although they are sometimes very much reduced. The disadvantages of ether in affecting respiration are, to a great extent, obviated by the use of Ethidene, whilst the dangers of chloroform are reduced to a minimum.—Reports of the Glasgow Committee on the action of Anæsthetics. B.M.J. i./79,2; B.M.J. ii./80,957.

As an anæsthetic preferred to bromide of ethyl.—B.M.J. i./80,586.

Lecture on use in 287 cases of major surgery and 1,565 cases of minor; one death.—B.M.J. i./80,797.

Used in six cases as an anæsthetic, all presented the appearance of a strong stimulant to the heart's action at the commencement of the administration, only one was sick; a good anæsthetic for children. M.T.G. i./79,62.

For operations on the eye, the writer is confident it is the best anæsthetic yet in use.—B.M.J. i /81,30.

Report of death from, result not attributable wholly to the anæsthetic.—B.Med. i./81,385.

Arrest of the heart's action and recovery. It depresses more quickly, and markedly than chloroform, but less persistently; on removing inhaler and allowing an inspiration of air, effects at once pass off.—B.M.J. i./81,431.

Action on the frog's heart like that of chloroform.—Pr. xxvii.13.

Death from, during eye operation. L. i./83,143.

Note on administration of. L i /83 253.

EUCALYPTI FOLIA.

Eucalyptus Leaves.

Dose. 5 grains or more in powder.

The dried leaves of *Eucalyptus Globulus*, or blue gum-tree of Australia, have been employed medicinally in the treatment of ague and bronchitis, and are now much used in Italy for Roman and malarial fevers; also, when coarsely powdered, are employed for smoking in cigarettes in cardiac and aneurismal asthma. The narrow leaves, mostly scimitar-shaped, are more active medicinally than the broad leaves of herbaceous shoots. No alkaloidal principle has been discovered in them, or in the bark of the tree, which also has been used in surgery. The medical properties are principally due to a volatile oil, which is now largely imported.

Oleum Eucalypti (*Off.*).

Dose.—1 to 5 minims emulsified, or mixed with olive oil.

Is principally distilled from the leaves of *Eucalyptus amygdalina* as well as *E. Globulus*, *E. dumosa*, *E. oleosa*, and probably other species. It is to this oil, and partially to the great avidity the tree has for water when growing, that the latter owes its anti-malarial influence. The oil is a powerful antiseptic, and has an ozonising influence on the atmosphere while it oxidises. It has a pale yellow colour, a penetrating camphoraceous odour, Sp. Gr. about ·900, and boils between 338° and 392° F. It is not caustic, like carbolic acid, nor does it produce much irritation when applied to the skin or mucous membrane, although it is very destructive to low organic growths. It is soluble in oils, fats, paraffins, and alcohol, but only a trace dissolves in water. An emulsion may be made by putting equal quantities of powdered gum arabic and the oil into a dry bottle, adding 40 parts of water, more or less, and shaking well. This is useful as a urethral injection or lotion, and may be given internally in 1 to 4-drachm doses.

The oil is useful mixed with an equal quantity of olive oil as a rubefacient for rheumatism.

A large percentage of Eucalyptus oil consists of **Eucalyptol,** a liquid also met with in commerce; it is that portion of the above oil which passes over between 338° and 352° F. It is obtained by treating the latter with caustic potash, then with chloride of calcium and subsequent distillation. Later researches have proved that it is a mixture of Terpene and Cymene. It is preferred to the crude oil for use in the oro-nasal inhalers, as it does not dry up as a varnished coating.

Preparations.

Eucalembroth Gauze.—See p. 210.

Eucalyptus Gauze, Carbasus Eucalypti. In 6-yard pieces.

Unbleached cotton gauze, impregnated with

Oil of Eucalyptus	1
Dammar Resin	3
Paraffin Wax	3

An antiseptic surgical dressing. In using it there is no danger of poisonous absorption of the antiseptic, as with carbolic acid gauze.—L. i./81,838; B.M.J. i./81,850.

Eucalyptus Sawdust.

Oil, 1; Sawdust, 8. Used to deodorise the air of rooms.

Eucalyptus Wool, with 5 per cent. of Oil.

Iodoform and Eucalyptus Bougies.—See Iodoform, p. 222.

Tinctura Eucalypti Foliorum, B.P.C.

One part of leaves with rectified spirit to produce 5 parts of tincture. *Dose.*—15 minims to 2 drachms.

Unguentum Eucalypti (*Off.*).

Hard Paraffin	2 ounces.
Soft Paraffin	2 ounces.

Melt, and add while hot

Oil of Eucalyptus	1 ounce.

Stir till cold. A mild antiseptic dressing.

Unguentum Iodoformi et Eucalypti.—See Iodoform, p. 224.

History of the drug, its uses and botanical origin. Is a febrifuge, the leaves are also employed as a healing application to wounds.—M.T.G. i /74,510; P.J. 1874, 872; P.J. 1879,865.

Ague, rapid cure of, by 1 to 2 drachm doses of the tincture.—Pr. xviii.366.

In ozæna, bronchitis with profuse foul expectoration, and uterine catarrh, tincture and infusion used both internally and externally. Pr. xx.206.

Tincture used in intermittent fever. -Pr. xx.411; Pr. xxiv.138.

In diphtheria, a mixture of 5 grammes of oil, 25 grammes of rectified spirit, and 170 grammes of water used for 10 inhalations, or equal parts of the oil and rectified spirit, of which 10 to 60 drops were used for an inhalation. M.T.G. ii /79,214.

Oil of Eucalyptus is a powerful antiseptic—more than three times as strong as carbolic acid in preventing development of bacteria, and not so poisonous. 80 minims may be taken in 2½ hours. Pr. xxv 212.

As a surgical dressing, gauze dipped in a solutio the oil 3, alcohol 15, and water 150. This gauze ma left undisturbed 4 or 5 days. - L. ii./80,387.

Air impregnated with Eucalyptus oil vapour rec mended as a substitute for the carbolic spray.—B.M ii./82,420.

Pessaries, composed of 6 drachms of Eucalyptus oil and 4 drachms each, of oil of theobroma and white wax divided into 12, one night and morning, or at night only, found useful after parturition, checks fœtor and decomposition of lochial discharge; and 5 minims of Eucalyptus oil xed with 20 of olive oil, used and recommended hypodermic injection for pyæmia.—L. ii./82,343.

se of steam from the infusion of leaves in infectious eases, especially diphtheria.—L. i./83,316; vapour of ucalyptus oil used for diphtheria.—L. ii./83,362.

EUCALYPTI GUMMI.

Eucalyptus Gum. *Syn.*—Red Gum.

Dose.—2 to 6 grains. May be made into pills with mucilage of acacia and a trace of glycerine, quickly manipulated.

An inspissated secretion from *Eucalyptus rostrata* and *corymbosa* and probably other species imported from Australia. It is semi-translucent and garnet-coloured, not so dark as, but resembling, kino in appearance. Soluble in water, tough and difficult to powder, it adheres to the teeth when chewed, is intensely astringent to the mucous membrane, useful in diarrhœa, relaxed throats, and given with success to check the purging of mercurial pill administered for syphilis.

This gum should be distinguished from the common Australian or Botany Bay kino, said to be the produce of *E. resinifera*. The latter is very resinous and little soluble in water.

Preparations.

Decoctum Eucalypti Gummi.

Eucalyptus Gum	1
Distilled Water	40

Boil till dissolved and strain. Used as gargle, and ven for diarrhœa in 2 to 4 drachm doses.—L. ii./83,1029.

xtractum Eucalypti Gummi Liquidum.

Eucalyptus Gum	1
Distilled Water	3

Dissolve by constant shaking and strain.

Dose.—30 to 60 minims in water.

A styptic. Injected into the nostril stops bleeding from the nose, and applied on lint arrests hæmorrhage from wounds. A tablespoonful to a pint of water forms an astringent injection for the vagina or bowel (Squire). This dilution may be also used as a gargle.

Insufflatio Eucalypti Gummi.

Eucalyptus gum in fine powder.	
Starch in powder, of each ...	¼ grain.

Applied by means of an insufflator, is a powerful astringent in hæmorrhage and relaxed conditions of the larynx and trachea. It does not thus affect the palate or appetite.

Syrupus Eucalypti Gummi (Squire).

Liquid Extract of Eucalyptus Gum	5 ounces.
Sugar	3 ounces.

Dissolve.

Dose.—30 to 60 minims.

Tinctura Eucalypti Gummi (Squire).

Eucalyptus Gum	1 ounce.
Rectified Spirit	4 ounces.

Shake till dissolved and strain.

Dose.—20 to 40 minims. 1 part to 7 of water is a very astringent gargle.

Trochisci Eucalypti Gummi.

Contain 1 grain in each, combined with fruit paste.

Trochisci Eucalypti Compositi.

Contain in each

Chlorate of Potassium ...	2 grains.
Cubeb Powder	¼ grain.
Eucalyptus Gum	1 grain.

With fruit paste, and are marked C.E.

Useful in congested and relaxed throats, especially when accompanied by arrest of mucous secretion.

EUONYMIN.

Dose.—½ to 5 grains. In a pill, with extract of henbane or glycerine of tragacanth.

The powdered extractive of a dark olive-brown colour generally, obtained from the bark of the root of the wahoo or spindle-tree—*Euonymus atropurpureus*. Possesses tonic, hydragogue, cathartic, diuretic, and antiperiodic properties. A so-called glucoside Euonymite has been obtained from it which is identical with Dulcite.

Pilula Euonymin.

Euonymin ... ... 2 grains.
Extract of Henbane ... ... *q.s.*

To make one pill; take at bedtime. A cholagogue stimulant, producing no depression or headache; requires to be followed by a saline aperient in the morning. —Pr. xxiii.335.

A powerful hepatic stimulant, but not nearly so powerful an irritant of the intestine as podophyllin.— B.M.J. Rep. 1878,63; B.M.J. i./79,177.

One grain, combined with 4 grains iridin, is a successful purging dose.—B.M.J. ii. 79,932.

Tinctura Euonymi.

Dose.—10 to 40 minims, is prepared from 1 of young bark of Euonymus in 5 of rectified spirit.

EUPHORBIA PILULIFERA.

This Australian dried plant, having attracted much medical attention there, is now being used in France as well as here as a remedy for asthma and bronchial affections, in paroxysmal dyspnœa, laryngeal spasm, whooping cough, angina pectoris, and in all affections of the pneumogastric. It appears to act directly and solely on the respiratory and cardiac centres.—L. ii./85,86 ; P J. 85,987.

Decoctum Euphorbiæ Piluliferæ.—1 in 40.
Dose.—2 ounces twice daily.

Extractum Euphorbiæ Piluliferæ.
Dose.—½ to 1½ grains; is an aqueous extract.

Tinctura Euphorbiæ Piluliferæ, B.P.C.
1 in 5 of proof spirit.—*Dose.*—10 to 30 minims.

EXTRACTUM CARNIS.

Extract of Meat. *Syn.*—LIEBIG'S EXTRACT. Sold retail in 2, 4, and 16 oz. jars,

This extract is principally prepared in South America and Australia, where meat can be obtained cheaply. It is of a brown colour, and has an odour of roast meat. It is prepared by concentrating by evaporation, an aqueous infusion of meat. During the process, the fat and albumen are separated. It contains little or no gelatine, but consists of creatin, creatinin, globulin, and urea, with organic potash and other salts. It has been much overestimated as a food, either for invalids or healthy persons; still it is often valuable as a flavouring to add to soups, beef-tea, &c., and it is a *nervous* food allied to tea. A quarter of a teaspoonful or more may be added to a breakfast-cup full of boiling water, with salt to taste, to form a beef-tea.

The other preparations of meat sold for medicinal use are:—

Concentrated Beef-Tea (Brand's).

A firm jelly, sold in ¼ and ½ lb. tins, also in skins contains the natural gelatine of the meat, and, diluted forms a nutritious substitute for true beef-tea.

Essence of Beef (Brand's).

Sold in ¼ lb. tins.

A soft, transparent, amber-coloured jelly, pre from beef by exhausting with tepid water. It is ag able to the palate and stomach of a delicate inva will often be relished when all other food is repelled, is useful in allaying obstinate vomiting. It is taken cold by teaspoonfuls, as desired, with or with a little bread and wine. A similar preparation is m from chicken.—M.T.G. i./61,536,587.

Meat Lozenges (Brand's).

Sold in boxes; are savoury, gelatinous essence of b lozenges, and contain substantial support for travelle in a portable form.

Peptonised Beef Jelly.—See Pancreas, p. 274.

Meat Juice (Valentine's).

Sold in 2 oz. bottles.

A dark, reddish-brown liquid preparation of meat, imported from Richmond, U.S.A. It is the expressed juice of meat concentrated at a low temperature in vacuo. A tea spoonful is added to 3 tablespoonfuls of cold or tepid water, and taken in tablespoonful doses or more for sickness or exhaustion. Hot water coagulates the albumen in it.

Sanguis Bovinus Exsiccatus, Desiccated Blood. An American preparation.

Blood freed from fibrin, evaporated, at a low temperature, to dryness. Is in blackish-red, opaque scales, like tartarated iron in appearance, readily soluble in cold water. One part in 8 of tepid water may be used as an enema; the same strength, with the addition of a little glycerine and brandy, to keep the mixture, is recommended to be given in tablespoonful doses; or it may be given powdered, put into gelatine capsules.

Useful as a nutritive enema.--L. i./81,322.

Use in puerperal insanity as enema.— L. ii./83,278.

Meat extracts derive their properties from the creatin and creatinin in them, and not from albumen.—Pr. xxxix. 257.

FERRI BROMIDUM.

Bromide of Iron.

Dose.- 3 to 10 grains.

Prepared by the direct combination of bromine with tallic iron in the presence of water, and evaporating solution till, when cooled, it will solidify. In greyish- e deliquescent masses, which, on exposure to the air, uire a brown colour from oxidation.

rupus Ferri Bromidi.

Bromide of Iron	160 grains.
Iron Wire, free from oxide	10 grains.
Distilled Water	3 drachms.

Heat together till, on filtering, the solution passes most colourless; when the liquid ceases to pass, wash e filter with a few drops of distilled water, and add e whole of the filtrate to

Syrup *q s.* to	4 ounces. Mix.

Dose.—1 drachm = 5 grains of the salt. The U.S. syrup is stronger—contains 10 per cent. of the bromide.

Syrupus Ferri Bromidi cum Strychnina.

Dose. - 1 drachm = $\frac{1}{64}$ grain Strychnine (in former editions $\frac{1}{32}$ grain) and about 5 grains of Bromide of Iron.

Strychnine	1 grain.
Diluted Hydrobromic Acid...	3 drachms.

Dissolve and add

Syrup of Bromide of Iron to	8 ounces.

Mix.

In one drachm of each of the last two syrups one grain of acid-hydrobromate of quinine is dissolved to form respectively,

Syrupus Ferri Bromidi cum Quinina, and

Syrupus Ferri Bromidi cum Quinina et Strychnina.

FERRI PERCHLORIDUM.

Perchloride of Iron.

(With 12 molecules of water of crystallization.)

Dose. —2 to 8 grains.

The official preparations of Perchloride of Iron are:— Liquor Ferri Perchloridi, *dose*, 10 to 30 minims; Liquor Ferri Perchloridi Fortior, *dose*, 2 to 8 minims; and Tinctura Ferri Perchloridi, *dose*, 10 to 30 minims. They are incompatible with infusions, &c., containing tannin, with the alkalies, alkaline carbonates, and mucilage of acacia. The tincture, composed of strong liquor 1, rectified spirit 1, and water 2, is the most generally used, and most valued preparation of iron for internal administration in anæmia, chlorosis, &c. If diluted from well-prepared strong Liquor, the tincture is more stable than the weak Liquor, which, for economy's sake, often supplants it. The strong Liquor is generally employed topically as a styptic or pigment; for this purpose, it has the disadvantage of containing a little more free acid than chemically neutralises the iron as perchloride. As a hæmostatic, therefore, the solid crystallized perchloride of iron containing 12 molecules, 40 per cent. of water, or a strong solution of it, is preferred. This salt is prepared by carefully evaporating the stronger official solution and setting aside to crystallize. It is in pale orange-yellow opaque crystalline masses, very deliquescent, and entirely soluble in water. A crystalline perchloride of iron, containing only five molecules of water, is much used in France; it is in drier masses, but does not make a bright solution. The anhydrous perchloride, having such great affinity for water, would act as a powerful caustic.

A Liquor Ferri Perchloridi Fortior of B.P. Sp. Gr. 1·42 may be made from the first-named salt by dissolving

Perchloride of Iron, with 12Aq.	5 parts.
Distilled Water	2 parts..

In T. H. the salt is ordered in

Injectio Ferri Perchloridi, 60 grs. in	1 oz.
Pigmentum Ferri Perchloridi Dilutum, 60 grs. in	1 oz.

Pigmentum Ferri Perchloridi Forte, 120 grs. in ... ... 1 oz.

Nebula Ferri Perchloridi, 3 grs. in ... ... 1 oz.

Glycerine covers its metallic astringent taste when given internally, and modifies the styptic properties of Perchloride of Iron partially by its viscosity, and partially by reducing it from the ferric to the ferrous state.

In post-partum hæmorrhage Perchloride of Iron is of great service. Soak a sponge, fixed on a whalebone stem, in a mixture of one volume of the stronger Liquor Ferri Perchloridi B.P. (= 1 part of solid, which is more styptic and portable) with three volumes of water, and pass into the cavity of the uterus as a swab.—Barnes' Obstetric Operations, 3rd edit., 476. Also used as an injection, 1 of solid to 10 of water.

Gossypium et Linteum Ferri Perchloridi, Styptic Wool and Lint, each contain 15 per cent. of the perchloride.

Tinctura Ferri Muriatis.—P.E.—*Dose.*—10 to 30 minims.

Sesquioxide of Iron (prepared by precipitation of ferrous sulphate with sodium carbonate) 6 ounces, Muriatic Acid 1 pint. Digest three days; add Rectified Spirit 3 pints, and filter. Contains some Ferrous Chloride, and is preferred by some practitioners.—B.M.J. i./87, 1206.

A discussion on its properties, and whether any of the iron be really present as a ferrous salt.—B.M.J. ii./87, 69, 95, 107, 217, 335.

Mistura Ferri Amara.—U.C.H.

Solution of Perchloride of Iron		30 minims.
Spirit of Chloroform...	...	5 minims.
Infusion of Quassia	... to	1 ounce.

Mix.

Mistura Ferri Aperiens.—U.C.H.

Sulphate of Magnesium	...	60 grains.
Sulphate of Iron ...	...	4 grains.
Diluted Sulphuric Acid	...	9 minims.
Peppermint Water ...	to	1 ounce.

Dissolve and mix.

Mistura Ferri Arsenicalis.—U.C.H.

Dose.—½ to 1 ounce.

Citrate of Iron and Ammonium	7½ grains.
Arsenical Solution	5 minims.
Tincture of Calumba ...	24 minims,
Water	to 1 ounce.

Dissolve and mix.

Mistura Ferri Perchloridi.—U.C.H.

Solution of Perchloride of Iron	15 minims.
Spirit of Chloroform... ...	9 minims.
Glycerine	9 minims.
Water...	to 1 ounce.

Mix.

Mistura Ferri Salina.—U.C.H.

Citrate of Potassium	22 grains.
Solution of Perchloride of Iron	24 minims.
Spirit of Chloroform	9 minims.
Water	to 1 ounce.

Dissolve and mix.

The styptic taste of iron is masked in this mixture, as a double decomposition occurs between the iron and the potash salt. If to 30 minims of the solution of Perchloride of Iron, 15 minims of the solution of Citrate of Ammonium be added, its styptic taste is effectually disguised.

Liquor Ferri Chloroxidi.

Stronger Solution of Perchloride of Iron	4 ounces.
Distilled Water	2 pints.

Mix, and add in excess,

Solution of Ammonia... ...	*q.s.*

Collect, wash well the precipitate, stir, and dissolve it with a gentle heat in

Stronger Solution of Perchloride of Iron	1 ounce.
Distilled Water, to make when filtered	1 pint.

Dose.—10 to 30 minims.

The above makes a basic solution of Ferric Chloride, of the same strength as the tincture. By placing this solution on a septum floating in water, it may be further freed from chloride, and rendered less styptic in taste, forming

Liquor Ferri Dialysatus (*Off.*).—Sp. Gr. 1·047.

Dose.—10 to 30 minims.

The two last preparations, made as directed, are dark reddish-brown in colour, and contain about 5 per cent. of ferric chloride. The strength of the latter will be slightly variable, as some of the iron passes through the septum. The manufacturers' processes for making it vary; it is, in reality, *un*-dialysed, or colloid, iron, as it does not pass through the septum; doubts have, therefore, been cast on its digestibility and its utility as a medicine.—P.J. 1880,639,709,723.

These two preparations of iron are useful when the strong acid preparations of iron cannot be borne by the stomach, but they are compatible with few other medicines, they will not bear dilution with common water, or with much distilled water without depositing the oxide. They ought, therefore, to be supplied to the patients as "drops," undiluted, or mixed with glycerine. —See below.

Dialysed iron is useful as an antidote to arsenic—much superior to the moist peroxide; 1 ounce doses should be given repeatedly, preceded by a dose of common salt or bicarbonate of sodium.

Glycerinum Ferri Dialysati.

Dialysed Iron Solution ...	20 minims.
Glycerine	40 minims.

Keeps well, and is palatable. *Dose.*—1 drachm.

Syrupus Ferri Dialysati.

Dose.—1 drachm (contains 20 minims of liquor). Is a very unstable preparation.

Experiments as to the antidotal value of dialysed iron solution.—P.J. 1878,281,569,1001.

Arsenical poisoning case recovered by treating with 2-drachm doses given diluted with water frequently.—P.J. 1878,570.

The chloroxide solution in treating a case of extreme anæmia during nine weeks, increased the number of red-blood corpuscles from 26 per cent. to 92 per cent.; in another case, patient taking Liq. Ferri Chloroxidi, m.xx., cum Liq. Bismuthi et Ammonii Citratis, m.xx., ter die, for thirteen weeks, from 47 to 102 per cent.—L. i./78,675; Pr. xxi.1.

Liquor Ferri Albuminati, Solution of Albuminated Iron.

Dose.—1 to 4 drachms.

Dried Egg Albumen ...	30 grammes.
(Or fresh do. about 4 eggs are required ...	150 grammes.)
Cinnamon Water ...	270 grammes.
Solution of Dialysed Iron	90 grammes.
Caustic Soda ...	1·125 grammes.
Rectified Spirit...	150 grammes.
Distilled Water to ...	1,000 grammes.

Dissolve the albumen in the cinnamon water; then dilute the solution of iron with 400 grammes of water, and add the spirit. Mix the solutions, add the soda, and set aside for several hours; then filter through cotton, and add water to weigh 1,000 grammes. Is easily digested and borne by a delicate stomach.

Liquor Ferri Peptonati, Solution of Peptonated Iron.

Dose.—1 to 4 drachms.

Dried Egg Albumen ...	10 grammes.
Pepsin	0·5 grammes.
Solution of Dialysed Iron	90 grammes.
Syrup	30 grammes.
Brandy...	100 grammes.
Distilled Water to ...	1,000 grammes.

Dissolve the albumen in 190 grammes of water, add the pepsin, and digest for four hours at 40° C. (104° F.) Mix the solution of iron with the syrup and 550 grammes of water, mix with the solution of albumen, and heat to 90°–95° C. (194°–203° F.) Cool, add the brandy, and water to weigh 1,000 grammes. After eight days decant the clear solution.

Tinctura Ferri Pomata, P.G. *Dose.*—15 to 30 minims.

Ferrated extract of apples (prepared by digesting iron filings in juice of sour apples) 1 part, Cinnamon Water (P.G., containing 10 per cent. of alcohol) 9 parts. Dissolve and filter.

FERRI PHOSPHAS.

Phosphate of Iron (*Off.*).

Syn.—FERROUS PHOSPHATE. The U.S. Ferri Phosphas is a soluble sodio-citro-ferric phosphate.

Dose.—2 to 10 grains.

Syrupus Ferri Phosphatis (*Off.*).*

Dose.—1 drachm, which contains 1 grain of phosphate of iron.

The B.P. process may be simplified as follows:—

Iron Wire, free from oxide	360 grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5	10 ounces, 463 minims.
Distilled Water	6 ounces.

Place in a glass flask, so that the fluid completely covers the iron wire, plug the neck with cotton wool, and put in a warm place until dissolved. Then filter and add

Syrup (cold)	72 ounces.
Distilled Water to	96 ounces.

Mix. It is best kept in bottles quite full.

Syrupus Ferri et Manganesii Phosphatum.

May be made by dissolving ½ grain phosphate of manganese in each drachm of the last.

Syrupus Ferri Phosphatis Compositus.

Syn.—CHEMICAL FOOD; PARRISH'S SYRUP (*modified*).

Dose.—½ to 2 drachms.

Iron Wire, free from oxide ..	37½ grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5 ...	1 ounce.
Distilled Water	5 drachms.

Place in a glass flask, so that the liquid completely covers the wire, plug with wool, and heat gently till dissolved. Add this solution to the following when the latter has cooled:—

Precipitated Carbonate of Calcium	120 grains.
Concentrated Phosphoric Acid	4 drachms.
Distilled Water	2 ounces.

Mix and add

Bicarbonate of Potassium ...	9 grains.
Phosphate of Sodium ...	9 grains.

Filter and set aside.

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* The B.P. preparation is now exceedingly acid. If 7¼ ounces only of the concentrated acid be used, it will be equal in strength to that of B.P. 1867. Even this is very acid, but keeps well.—P.J. 1887,515.

Cochineal ... ... 30 grains.
Distilled Water ... ... 7½ ounces.

Boil for 15 minutes and filter, pouring over the filter sufficient water to produce seven ounces. To this add

Refined Sugar ... ... 14 ounces.

Heat till dissolved and strain. When cold, add the solution of phosphates, and sufficient water to measure 1 pint. Contains in each drachm about ½ grain Phosphate of Iron and ⅘ grain Phosphate of Calcium, with small quantities of the Phosphates of Potassium and Sodium. It should be kept in bottles quite full. It is not too nauseous to administer to children, for whom it is frequently prescribed, in teaspoonful doses.

Syrupus Ferri, Quininæ et Strychninæ Phosphatum. *Adopted by B.P.C.*

Syn.— EASTON'S SYRUP (*modified*).

Dose.—½ to 1 drachm. Contains phosphate of iron 1 grain, phosphate of quinine ¾ grain, and strychnine $\frac{1}{32}$ grain in 1 drachm.

The original formula was published in Aitken's Practice of Medicine, vol. ii. p. 62, 5th ed.

Strychnine, in powder ... 5 grains.
Concentrated Phosphoric Acid
Sp. Gr. 1·5, 75 minims.
Distilled Water ... ... 225 minims.

Dissolve and add

Phosphate of Quinine ... 120 grains.

Dissolve by the aid of a gentle heat, and add

Syrup of Phosphate of Iron to 1 pint.

Mix.

Useful for obstinate gleet.—L.i./88,1019.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.

Dose.—½ to 1 drachm.

As the Phosphate of Quinine is apt to crystallize out of Easton's Syrup, even if containing only ¾ grain in a drachm, a more stable and agreeable preparation may be made by dissolving the strychnine and phosphate of quinine (equal to $\frac{1}{32}$ and 1 grain in a drachm respectively) in the solution of phosphate of iron (*See* Syrupus Ferri Phosphatis, p. 191), and using simple elixir in place of syrup as a vehicle.

Easton's syrup has its equivalent dose in the following pill, which is portable, tasteless, and readily soluble.

Pilula Ferri (1 gr.), Quininæ (1 gr.), et Strychninæ ($\frac{1}{32}$ gr.) Phosphatum.

Phosphate of Iron	16 grains.
Quinine, pure (= sulphate 16 grs.)	12 grains.
Strychnine	$\frac{1}{2}$ grain.
Sugar	8 grains.
Concentrated Phosphoric Acid	20 drops or *q.s.*

Mix quickly, having first triturated the strychnine with the phosphate, and divide into 16 pills.

FERRO-ALUMEN.

Iron Alum, T.H. *Syn.*—FERRI ET AMMONII SULPHAS, AMMONIO-FERRIC ALUM, U.S.

Dose.—3 to 10 grains, in water.

Pale amethyst octahedral crystals, efflorescent on exposure to the air, odourless, having an acid, styptic taste, and slightly acid reaction; soluble 1 in 3 of water; insoluble in alcohol. Is used internally to arrest hæmorrhage from the kidneys, and employed as an astringent and styptic gargle—8 grains to an ounce—also as a throat spray and pigment.

FUCUS VESICULOSUS.

Bladder Wrack. *Syn.*—SEA WRACK.

Preparations of this sea-weed, being rich in iodine, bromine, and chlorine salts, have for a long time had the reputation of being useful in reducing corpulence. A liquid extract has been advertised and sold as "Anti-fat."

Extractum Fuci Vesiculosi.

Dose.—3 to 8 grains before meals, conveniently given in 4-grain pills, with althæa. It is exhausted by a semi-alcoholic menstruum.

Extractum Fuci Vesiculosi Liquidum.

Dose.—1 or 2 drachms before meals.

Combined with liquor potassæ, reduced the fat of a lad who had suddenly become very corpulent.—Pr. xvi.312.

The extract, in 4-grain doses three times a day, given to lessen fat, with good results.—B.M.J. i./79,881.

Extract given with good results; does not produc dyspepsia or diarrhœa.—B.M.J. i./79,960.

Pills, 4 grains in each, three times a day, given fo obesity, acted as a diuretic; did not diminish the weight —B.M.J. ii./79,315.

An obese man was diminished. —B.M.J. ii./79,482.

A lady lost 20 lb. in 9 weeks when taking the liqui extract; and a gentleman 8 lb. in 6 weeks; anothe 8 lb. in 3 weeks, without bad results.—B.M.J. ii./7 482.

GELSEMIUM.

Syn.—GELSEMINUM.

The dried rhizome and rootlets of "yellow jasmin —*Gelsemium nitidum* (*G. sempervirens,* Aiton)—in ported from the United States, must be distinguish from the yellow jasmine cultivated here, which is species of *Jasminum*. Gelsemium is said to have febr fuge properties, as it lowers the pulse and depresses t nervous system. It has been much used in acute a rheumatic neuralgia, and toothache. It is a power paralyzer and respiratory poison. Large doses contra the pupil and cause giddiness and diplopia. It contai in combination with gelsemic acid, the alkaloid

Gelsemina, Gelsemine. *Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

A yellowish white micro-crystalline powder, with bitterish taste, odourless, sparingly and slowly solu in water, easily soluble in alcohol, ether, dilute aci and 1 in 100 of castor oil. Applied locally, it dila the pupil of the eye. Commercial *amorphous* Gelsem has been found to consist of two alkaloids, one of wh forms a crystalline hydrochlorate, while the other is crystallizable.

Gelseminæ Hydrochloras, Gelsemine Hyd chlorate. *Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

In white, granular crystals, freely soluble in water

Liquor Gelseminæ Hydrochloratis.

Hydrochlorate of Gelsemine ...	1 grain.
Distilled Water	1 drachm.

Dose.—Hypodermically 1 to 3 minims. Usefu facial neuralgia. The solution is likewise recommen for quickly dilating the pupil previous to ophthalmoscopic examination. The maximum dilatation occurs in 50 to 70 minutes, and, as its action is not so prolonged as that of atropine, the inconvenience of a dilated pupil more rapidly subsides.—L. i./77,832 ; B.M.J. ii./79,362.

Ophthalmic discs contain $\frac{1}{500}$ grain **Gelsemine** combined with gelatine.

Gelsemin. *Dose.*—½ to 2 grains in a pill, with spirit and glycerine.

The powdered alcoholic extractive of a pale brown colour obtained from Gelsemium root. Must be distinguished from the alkaloid. Useful in neuralgia and as an hypnotic.

Extractum Gelsemii Alcoholicum (*Off.*).

The powdered drug is percolated with rectified spirit, displaced with water, and the tincture evaporated to an extract. Is intended as the official equivalent of Gelsemin (see above).

Dose.—½ to 2 grains.

Pilula Butyl-Chloral cum Gelsemina.—See p. 94.

Tinctura Gelsemii (*Off.*).

Gelsemium Root	1 ounce.
Proof Spirit	8 ounces.

Dose.—5 to 30 minims, often given in combination with bromide of ammonium or potassium for neuralgia The tincture has a pale brown colour and a fluorescent surface.

References.

Neuralgia of face and jaws associated with carious teeth—15 minims of the tincture every 6 hours rarely fails to give relief.—Pr. xv.115 ; L.i./73,731 ; B. and F.M.C.R. lvii.474.

Physiological effects, experiments and investigation of, &c. ; is an antidote to strychnine.—L. ii./75,907 L. i./76,82,124,415,489,561,661,732 ; L. ii./76,569 L. i./78,858,892,953.

Dilates the os uteri in the non-puerperal state.—Pr. xviii.131.

Valuable remedy for rigid os during labour.—M.I 1879,186.

Checks the hectic of consumption.—Pr. xxiii.375.

Dilates the pupil, used locally, whilst the internal use contracts it. Used with decided success in neuralgia of the dental nerves, even when the teeth are carious.—R.

Relieves maxillary neuralgia, but leaves frontal unaffected; 20 minims of tincture for a dose, repeat in 1½ or two hours. If a third dose is required, its use is contra-indicated.—L. ii./75,660.

In neuralgia of the fifth pair of nerves 20 minims every half-hour up to three doses. Specially useful in rheumatic neuralgia of the gums.—Br. ii./79,xxiv.

Death from 2 ounces of tincture.—L. i./82,74.

Case of traumatic tetanus treated by Gelsemium with recovery.—B.M.J. ii./82,1245; B.M.J. i./83,9.

Diplopia and ptosis may be caused by large doses.—B.M.J. ii./83,323.

GINGERIN.

Dose.—¼ to 1 grain, in a pill or much diluted with spirit.

In commerce this is the crude liquid oleo-resin obtained from ginger, the rhizome of *Zingiber officinale*. It has the colour and consistence of treacle, with an aromatic and very pungent taste. Is a useful addition to purgative pills as a corrective to prevent them griping.

Tinctura Carminativa, B.P.C.

Cardamom Seeds, bruised, 600 grains; Stronger Tincture of Ginger, 1¼ ounces; Oil of Cinnamon, 100 minims; Oil of Caraway, 100 minims; Oil of Clove, 100 minims. Macerate the cardamoms in 15 ounces of Rectified Spirit for a week, decant, express, and dissolve the oils in the mixed tinctures, making up to one pint with Rectified Spirit. *Dose.*—2 to 10 minims.

GLYCERINUM.

Glycerine (*Off.*).

Dose.—10 minims to 2 drachms.

Preparations—Official.

Glycerinum Acidi Carbolici	1 to 4
Glycerinum Acidi Gallici (by water bath)...	1 to 4
Glycerinum Acidi Tannici (by water bath)	1 to 4
Glycerinum Aluminis	1 to 5
Glycerinum Amyli (heated)	1 to Glycerine 5, Water 3
Glycerinum Boracis ...	1 to Glycerine 4, Water 2

Glycerinum Plumbi Subacetatis.—See p. 198.

Glycerinum Tragacanthæ.—See p. 360.

Stronger solutions of carbolic and tannic acids are sometimes preferred. As a throat pigment, and for uterine application, that of tannic acid may be used double the above strength—1 to 2 of Glycerine. Glycerine of borax is not a mere solution, it has an acid reaction, and when mixed with an alkaline carbonate evolves carbonic acid.

Glycerinum Aluminis is a useful astringent pigment in chronic pharyngitis; is less disagreeable than tannin.—B.M.J. i./85,178.

Half an ounce of Glycerine alone, or with one-third part of water added, forms a useful enema for constipation.—L. i./88,38. For this purpose **Suppositories** may be made to contain ¼ ounce glycerine combined with gelatine.

Unofficial.

Boroglyceride.—See Acidum Boricum, p. 25.

Gelato-Glycerine, T.H.

Gelatine 5, Water 6, dissolve, add Glycerine (by weight) 6, and evaporate to produce 15. Used as a base for nasal and urethral bougies. Is firmer than Glyco-Gelatine.

Glycerine Jelly, for the Hands.

Gelatine	140 grains.
Rose Water	6 ounces.

Soak a few minutes, and heat in a water-bath to dissolve, add, when cool but still fluid,

White of Egg	¾ ounce.

Heat to coagulate completely, and add

Glycerine	6 ounces.
Salicylic Acid	12 grains.

Mix well, filter through a hot-water funnel, and bottle while warm. A harder jelly, for microscopic purposes, is prepared in a similar manner.

Glycerinum Acidi Borici.—See p. 22.

Glycerinum Aluminis et Acidi Tannici.

Potassium Alum (free from iron), in powder	1 ounce.
Glycerine	6 ounces.

Heat to dissolve, and add

Tannic Acid...	1 ounce.

This forms a solution which is a very astringent throat pigment; has the advantages of a gargle without destroying the appetite. An ounce to a pint of tepid water forms a useful astringent vaginal injection.

Glycerinum Belladonnæ.—See Belladonna, p. 88.

Glycerinum Bismuthi Nitratis.

Nitrate of Bismuth, in crystals ... (true nitrate.)	60 grains.
Glycerine	1 ounce.

Dissolve without heat. Used as stimulant application in eczema.—P.J. 1874,389,470,484,508.

Glycerinum cum Aqua Rosæ.

Glycerine	2 ounces.
Rose Water, prepared with Otto	3 ounces.

Mix. An agreeable emollient for the skin.

Glycerinum Ferri Dialysati.—See p. 190.

Glycerinum Hydrargyri Perchloridi.—contains ⅔ grain in 1 minim.—See p. 208.

Glycerinum Iodi.—See Iodum, p. 227.

Iodo-Glycerine Solution. See Iodum, p. 228.

Glycerinum Olei Ricini.

Equal volumes of Castor Oil and Glycerine are emulsified by adding the oil gradually, triturating thoroughly, to the Glycerine contained in a mortar; a semi-solid compound is formed, which, when flavoured with essential oil of almond or lemon, is not nauseous, and as a purge does not lose its effect.—L. i./83,263,303; Pr. xxx.65.

Dose.—A teaspoonful, or more.

Glycerinum Plumbi Subacetatis (*Off.*).

Syn.—PIGMENTUM PLUMBI—GLYCEROLE OF SUBACETATE OF LEAD.—B.S.H.

Acetate of Lead	5 ounces.
Oxide of Lead, in powder ...	3½ ounces.
Glycerine	20 ounces.
Distilled Water	12 ounces.

Mix together, and boil for a quarter of an hour; then filter and evaporate to one pint. This is the same strength as Goulard's Extract—Liquor Plumbi Subacetatis, B P., with glycerine for the solvent in place of water; it keeps much better than, and does not deposit like, the latter.—P.J. 1876,881.

This pigment is useful as an astringent and sedative in cases of chronic eczema. It should first be applied diluted 1 part with about 7 of glycerine, and the strength gradually increased; it desiccates the eruption without producing a hard crust. It may also be diluted with four parts of milk as a lotion for eczema, but this Lotion,

Lotio Plumbi cum Lacte is generally made with liquor plumbi subacetatis, 1 or 2 drachms to the ounce of milk, with a little Eau de Cologne added.—Br. ii./82,225.

Liquor (or Lotio) Plumbi Lactatis, West. H., has 1 part of Solution of Subacetate of Lead to 15 of Milk, but it is more frequently used about 1 to 9.

The glycerole has also been found useful, in some uterine affections, applied on absorbent wool, diluted as above.

Unguentum Glycerini Plumbi Subacetatis (*Off.*).

Glycerine of Subacetate of Lead	4½	ounces.
Soft Paraffin	18	ounces.
Hard Paraffin...	6	ounces.

Melt the paraffins together, add the glycerine of lead, and stir till cold. This preparation is equivalent to the old Goulard's cerate; the latter is prone to become rancid, whereas the above will keep indefinitely. It is found a most useful application in chronic eczema, ulcerated legs, &c. It can be kept constantly applied on lint or rag, as it does not become absorbed by the dressing, or stick to the sore, but comes off clean on removing the lint. It is useful also in tinea tarsi.

Unguentum Zinci Compositum, R.O.H.; Ointment of Zinc, Ointment of Glycerine of Subacetate of Lead, of each equal parts. Rub well together.

Glycerinum Tragacanthæ (*Off.*).—See Tragacantha, p. 360.

Glyco-gelatine, T.H.

Refined Gelatine	1	ounce.
Glycerine (by weight)... ...	2½	ounces
Ammoniacal Solution of Carmine	*q.s.*	
Orange Flower Water ...	2½	ounces.

Soak the gelatine in the water for two hours, then heat in a water-bath till dissolved, add the glycerine, and stir well together. Let the mixture cool, and when and agreeable laxative. For constipation and hepatic disease, it is pleasant to take, and effectual without catharsis.—Pr. viii.276.

Suggested to substitute anise for fennel, and to add one-fourth as much ginger.—L. ii./86,627.

GOKHRU.

Syn.—GOKEROO (*Hindi*).

The fruit of *Pedalium Murex*. It is employed in India as a remedy for nocturnal seminal emissions, incontinence of urine, and impotence.—Pr. xvii.381.

The capsule is very prickly, and both it and the seeds are rich in mucilaginous matter.

Infusum Gokhru.

Gokhru Fruit	1 ounce.
Boiling Distilled Water ...	1 pint.

Macerate 2 hours and strain, pouring over the contents of the strainer water *q.s.* to produce 1 pint, which forms a daily dose, and should be freshly prepared.

The fruit of **Tribulus terrestris**, which somewhat resembles the above, is also known by the name of Gokhru in India.

GOSSYPIUM.

Cotton Wool (*Off.*).

Beside **Pyroxylin**, Gun Cotton (*Off.*) the following preparations of cotton are in use:—

Gossypium Absorbens, now the *official* **Cotton Wool**, is much employed as a wound-dressing. It is prepared by alternately treating bleached cotton with diluted hydrochloric acid and solution of soda and well washing afterwards. A sheet of this wool between layers of gauze is sold as **Absorbent Gauze and Cotton Wool Tissue**; the same made into **Balls** is recommended for surgical use in place of sponges.—L. i./83,1003.

Gossypium Acidi Carbolici.—See p. 28.

Gossypium Acidi Salicylici, 4 and 10 per cent. —See Acidum Salicylicum, p. 45.

Gossypium Camphoræ Salicylatæ, 8 per cent. See Camphora Salicylata, p. 105.

Gossypium Iodoformi, 4, 10, and 50 per cent.—See Iodoform, p. 223.

In T.H. the following are recommended for aural affections:—Gossypium Acidi Borici, containing 50 per cent.; Gossypium Acidi Tannici, 33 per cent.; Gossypium Aluminis, 30 per cent.; Gossypium Camphoræ, 33 per cent.; Gossypium Cubebæ; Gossypium Ferri Perchloridi; Gossypium Hamamelidis; Gossypium Iodi; Gossypium Iodoformi, 50 per cent.; Gossypium Krameriæ; Gossypium Opii.

Gossypium Acidi Tannici is useful in treating ozæna.—Asclepiad. xvii.47.

Tinctura Gossypii Radicis (Squire).

Dried bark of root of cotton plant 1, proof spirit 4.

Dose.—1 drachm 3 times a day as an emmenagogue and parturient.

An infusion is often preferable to ergot in labour.—L. ii./84,558.

GRINDELIA.

Gum Plant.

The dried herbs *Grindelia robusta* and *G. squarrosa*—the latter is most commonly used—form the Californian remedy for asthma. In America, this drug has been found very useful in reducing the frequency and violence of the spasmodic attacks which occur in asthma, whooping-cough, and bronchitis.—B.M.J.ii./87,1356.

The involucre, and often the leaves, are coated with a glutinous oleo-resin.

Extractum Grindeliæ (Alcoholic).

Dose.—2 to 3 grains in a pill with lycopodium, three times a day.—R.

Extractum Grindeliæ Liquidum, B.P.C.

Dose.—10 to 30 minims at the onset of a paroxysm of asthma, and repeated every half-hour or hour, in sweetened water or milk, else the resin separates and sticks to the vessel. Useful for whooping-cough, 10 minims every 2 hours.—P.J. 1878,582.

Useful in whooping-cough and bronchitis, and of singular efficacy in asthma. We have been informed of several cases occurring in aged persons, in which half a teaspoonful of the fluid extract afforded almost instantaneous relief.—Stillé and Maisch.

ganese, these if moist, and freshly precipitated, cause oxygen to be briskly evolved from it. Ether restrains this decomposition, and this fact is made use of for the production of

Ozonic Ether.

Dose.—½ to 1 drachm.

Ether containing in solution peroxide of hydrogen of 30-volume strength with some alcohol It is miscible with water, possesses properties similar to the above, and is more stable. In conjunction with tincture of guaiacum, it is employed as a test for blood; it changes the colour of the blood to blue; but gluten, casein, &c., do the same. Peroxide of Hydrogen and Ozonic Ether have been given internally for diabetes and whooping-cough, and Ozonic Ether used locally for scarlet fever.

Statement of the chemistry and properties of Peroxide of Hydrogen, advises its trial in diabetes and fever, as an antidote to the alkaloids and as an application to foul sores. —L. ii./60,390.

Pigment in diphtheria.—Th.Gaz.1888,199; Pr. xl.454.

Of great value as a deodoriser.—M.T.G. ii./75,449.

Promotes glandular secretion, useful in diabetes and dyspnœa; suggests trial in epilepsy. M.T.G. i./71,162.

Lecture suggesting its medical uses in diabetes, rheumatism, cardiac disease, and struma. M.T.G. ii./68,661.

Its use in albuminuria following scarlatina, pregnancy, and pneumonia.—B.M.J. i./81,575.

Ozonic Ether, in half-drachm doses, 3 times a day, cured cases of diabetes; it oxidises the sugar.—L. i./68, 45; L. ii./68,526; M.T.G. ii./68,680.

For purulent discharges, is a local astringent and antiseptic, colourless, odourless, painless, does not stain and is not poisonous —Pr. xxxii.196.

Antiseptic Ointment of Ozonic Ether (Day).

Ozonic Ether	4 drachms.
Lard	4 ounces.
Benzoic Acid	20 grains.
Otto of Roses	4 drops.

Mix without heat. Used for inunction over the whole surface of the body three times a day for about three weeks, with success to prevent spreading of scarlet fever in a number of cases, and ½ an ounce of the ether to a pint of water, used as a gargle or given as a mixture in frequent doses.—M.T.G. i./77,256.

Oxygen and **Oxygen Water.**

Are much used in Paris medically. The oxygen is obtained from atmospheric air by first dehydrating and decarbonising it with quicklime; the oxygen is then separated from the nitrogen by being absorbed by caustic baryta exposed under pressure to a high temperature; the peroxide of barium formed yields pure oxygen on being heated at a lower temperature; it is used medically to inhale pure, or water aërated with it supplied in syphons or bottles, is drunk as an exhilarating beverage, and as a remedy for dyspepsia, diabetes, &c.

Their use in nervous diseases, tetanus, hydrophobia, exophthalmic goitre, eclampsia.—Pr. xxxvi. 53 ; B.M.J. i./87,740.

Ethereal Oxygen for inhalation.

Put Ozonic Ether, 2 ounces, in a Wolff's bottle, with an inhaling mouthpiece attached to one mouth, add by the other aperture 8 grains of Permanganate of Potassium, dissolved in 1 ounce of water. As the liquids mix oxygen and ether vapour are given off, and may be inhaled for whooping cough, asthma, phthisis, &c.—Asclepiad, Feb., 1887.

HYDROQUINONE.

Syn.—Hydrochinon (German).

Dose :—?

An isomeride of Resorcin and Pyrocatechin. May be prepared from quinic acid by dry distillation, but is principally obtained as a derivative of coal tar. It is neutral, inodorous, has a sweetish taste, soluble 1 in 20 of water, soluble also in alcohol and ether, and slightly so in olive oil. It possesses stronger antiseptic and antipyretic properties than Resorcin. Gramme doses cause symptoms of excitement like Resorcin. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, useful also in infectious parasitic corneal ulcers, lessens the secretions, dose not irritate the conjunctiva or cornea, and has a certain antiseptic action on the diphtheritic process. Like carbolic acid as an antifermentative, and boric acid in the little irritation it causes.—L. i./82,78.

Notes on its effects on urea and urine.—L. i./87,792.

HYOSCINA.

Hyoscine.

A colourless syrupy liquid alkaloid, obtained from *Hyoscyamus niger*, is also contained in *Duboisia myoporoides*. It appears to be the active therapeutic agent in the amorphous hyoscyamine of commerce. Only its salts are used medicinally.—See Atropine, p. 80.

Hyoscinæ Hydrobromas. In large white prismatic crystals, freely soluble in water. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Injectio Hyoscinæ Hypodermica. $\frac{1}{2}$ per cent. *Dose.*—1 to 2 minims.

Liquor Hyoscinæ Hydrobromatis, 1 in 1,000 of chloroform water. *Dose.*—3 to 15 minims.

Pilula Hyoscinæ Hydrobromatis, $\frac{1}{200}$ grain in each.

Hyoscinæ Hydrochloras. In large crystals, similar to the hydrobromate.

Dose.—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Hyoscinæ Hydriodas In large whitish crystals, with properties like above. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Hypodermic Lamels of Hyoscine contain $\frac{1}{200}$ grain in each, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{500}$ grain similarly combined.

Hyoscine is a powerful narcotic, especially useful in cases of insomnia, in calming excitement and delirium, and producing sleep in acute mania. It is said to have no influence on the respiration, but to increase the action of the heart and circulation.

A solution of 1 in 200 is a powerful mydriatic where continued dilatation is required.—L. ii /86,1065.

Three cases of acute mania; is the best calmative, relieves motor spasm, lessens saliva and perspiration; requires caution, $\frac{1}{100}$ grain has caused toxic symptoms.—L. i./88,218; Th. Gaz. March, 1888,173.

As a cerebral sedative, $\frac{1}{200}$ to $\frac{1}{100}$ grain of the hydriodate hypodermically is excellent.—Pr. xxxvii. 321; L. i./87, 1186; B.M.J. i./87,1102.

Experiments on dogs, B.M.J. ii./87,216.

Case of recovery after taking four-fifths of a grain.—Th. Gaz. Dec. 1887,810.

In ophthalmic use it may cause dangerous symptoms.—L. ii./86,1054.

HYOSCYAMINA.

Hyoscyamine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, in cases of mania increased to $\frac{1}{16}$ or $\frac{1}{8}$ grain or more, dissolved in water by means of diluted sulphuric acid, or in a pill.

The pure alkaloid is in snow-white masses of minute crystals, without odour, soluble 1 in 120 of water, freely soluble in spirit, and is alkaline to test-papers; but the author found in this respect it has less than half the neutralising power of Atropine. According to Ladenburg, Hyoscyamine is identical with "light atropine" and "light daturine" (see Atropine), as well as Duboisine. He also finds that Hyoscyamus contains another alkaloid, Hyoscine (see p. 216). As a mydriatic, it acts like atropine, but with greater intensity, while the duration of effect is about equal (P.J. 1876, 471). It is an expensive alkaloid. In addition to the crystallized alkaloid, there is in commerce

Hyoscyamine, Amorphous, or Uncrystallised **Hyoscyamine.**

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain, increased, given in acute mania.

A dark brown extract-like preparation, having a strong, disagreeable odour. It is much less costly than the crystals, and the dose should be about the same.

According to Kobert this owes its activity principally to the Hyoscine it contains.—Pr. xxxvii.321.

Hyoscyaminæ Sulphas, Hyoscyamine Sulphate, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased.

In small white granular crystals, freely soluble in water. The sulphate of **Amorphous Hyoscyamine,** a whitish deliquescent powder, is a cheaper preparation.

Injectio Hyoscyaminæ Hypodermica.

Sulphate of Hyoscyamine ...	1 grain.
Distilled Water	2 drachms.

Dose.—1 to 4 minims.

Hypodermic Lamels of Hyoscyamine contain $\frac{1}{50}$ grain, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{5000}$ grain similarly combined.

Relieves pain of neuralgia, has cured mercurial tremor, senile trembling, and paralysis agitans.—M.T.G. ii./72, 605.

Violence in mania is controlled by 1-grain doses of the Amorphous Hyoscyamine.—Pr. xvii.7.

In chorea $\frac{1}{40}$ grain, increased to $\frac{1}{5}$, of the amorphous alkaloid, given twice a day, is effective in chronic cases.—Pr. xvii.291.

In acute mania, 1 grain of crystallized alkaloid produced sleep.—Pr. xviii.166.

In acute mania, a solution of the amorphous alkaloid, half a grain in an ounce, was used, and $\frac{1}{8}$ to $\frac{3}{8}$ grain, with dose increased, was given, well diluted with water, with good result.—Pr. xx.85.

In paralysis agitans, puerperal mania, delirium tremens, crystallized alkaloid is given in $\frac{1}{30}$-grain doses.—Pr. xxvi.124.

Resemblance to atropine in action. $\frac{1}{120}$ to $\frac{1}{40}$ grain injected hypodermically.—L. ii./76,319.

Crystallized alkaloid in dose of $\frac{1}{40}$ grain injected hypodermically produced delirium in patient addicted to morphine injections.—L. i./79,474.

In most cases of mania the amorphous alkaloid is a "chemical restraint," produces sleep in acute mania, diminishes number of attacks in epileptic mania, mind becomes clear in delusional insanity, and in chronic dementia the patient improves under small doses. Dose, $\frac{1}{16}$ to $\frac{1}{4}$ grain of the amorphous alkaloid.—L. ii./79,462, 502,540.

Use as a hypnotic and antispasmodic. Distinct effects from $\frac{1}{100}$-grain doses. Dose recommended of the amorphous alkaloid $\frac{1}{20}$ to 1 grain, of crystals $\frac{1}{100}$ to $\frac{1}{25}$ grain.—B.M.J. i /80,629; M.R. 1880,314.

Amorphous or Extractive Hyoscyamine is useful in maniacal excitement in dose of $\frac{1}{3}$ grain, increased, if necessary, to 1 grain. Sends the patient to sleep in half an hour or less.—Pr. xxvii.367; Pr. xxxii.302; Pr. xxxiii.46.

When used hypodermically, is most valuable in calming the violence of a furious maniac, or a noisy, general paralytic.—B.M.J. ii./82,1031; i /83,9; L. ii./84,273.

In delirium tremens, quarter of a grain every six hours found useful —B M.J. i./85,285.

Use in mania, $\frac{1}{16}$ grain given three times a day, increased to $\frac{1}{8}$ or $\frac{1}{4}$ grain as single doses, requires care.—B.M.J. ii./85,629.

Hypnone.—See p. 128.

ICHTHYOL.

Syn.—SULPHO-ICHTHYOLATE OF AMMONIUM. *Dose.*—10 to 30 grains per diem.

A viscous, brownish, almost black substance, with a disagreeable tarry benzol odour, containing about 15 per cent. of sulphur; is obtained by treating the products of distillation of a bituminous quartz found in the Tyrol with sulphuric acid and neutralizing with ammonia. Many remains of fish and other animals are found in the strata whence this quartz is obtained. The deposit is probably the remains of decomposed animals and fish, hence its name—Ichthyol. The ammonia combination is distinctively known as **Ichthyol,** but sulpho-ichthyolates of similar consistence and appearance are also prepared with Lithium, Sodium, and Zinc, and known as

Lithii Sulpho-ichthyolas. *Dose* – 10 to 30 grains per diem.

Sodii Sulpho-ichthyolas. *Dose.*- -10 to 30 grains per diem

Zinci Sulpho-ichthyolas. Principally for external use

They are miscible with water, glycerine, fats, oils, vaseline, and lanolin, and may be combined with preparations of lead and mercury without the formation of sulphides. They form valuable applications for chronic skin diseases, as eczema, psoriasis, acne, and favus; as an embrocation, they relieve the pains of chronic rheumatism.—L.ii./83,120, ii /87,1136; B.M.J.i./87,800.

Capsules of **Ammonium-Ichthyol** and **Lithium-Ichthyol,** 0·25 gramme (4 grains). *Dose.*—1 or 2.

Collodion 7 parts, with Ichthyol 1 part, is used for eczema and other skin diseases.

Pills of **Lithium-,** and of **Sodium-Ichthyol,** 1½ grains respectively.—*Dose* of each, 4 to 12 daily.

Plaster of **Lithium-Ichthyol** is used for application to small wounds.

Solutions of **Ammonium-Ichthyol** in a mixture of alcohol and ether contain 10 or 30 per cent.

Unguentum Ichthyol may be made to contain from 20 to 50 per cent. with lanolin or with olive oil and lard.

Ichthyol is used internally in cases of eczema depending on nervous lesions, in neuralgia, catarrh, chronic rheumatism, lepra, and constipation.

Summary of its uses.—L. ii./87,1136.

Valuable externally for treating acne, eczema, and lichen.—B M.J. i./87,800.

Ointments made with 50 and 66 per cent. of this drug, combined with ammonia, are recommended for psoriasis externally in weak constitutions, very sensitive skins, or when these have been affected by stronger remedies.—L. ii./85,577.

Successfully used for acute and chronic rheumatism; it relieves the pain but not the swelling.—L.ii./86,645.

For prurigo senilis use a 30 per cent. solution (emulsion with water), for pruritis, burns, and ulcers a 10 per cent. solution, and internally 2-ounce doses of a 1 per cent. solution for gastric catarrh.—B.M.J. i./86,164; Th.Gaz. April 1888,273.

INGLUVIN.

Dose.—5 to 10 grains.

A special American preparation, said to be prepared from the gizzard of the domestic fowl, *Pullus Gallinaceus*. Recommended as a substitute for pepsin, and for the cure of obstinate vomiting, especially the vomiting of pregnancy.

Experiments showing that Ingluvin had little or no digestive action on coagulated egg-albumen.—Pr. xxiv.192.

INULA.

Elecampane.

From the root of *Inula Helenium*, which is rich in INULIN, a peculiar body allied to starch, is obtained a crystalline camphor or stearoptene:—

Helenin.

Dose.—⅓ to 2 grains.

Is in light white acicular crystals, like sulphate of quinine in appearance; has a faint odour and aromatic taste; melts at 162° F.; is insoluble in water, but freely soluble in alcohol. According to Kallen (mentioned in Pharmacographia), it can be separated into two distinct crystalline bodies—one he names true Helenin and the other Alant Camphor. The crude Helenin is a powerful antiseptic; arrests putrefaction 1 in 10,000. In Spain, it has been much used as a surgical dressing. Ferran says it is more destructive to the cholera bacillus than any other agent. It is useful in ozæna—keeps away insects, especially mosquitos. Internally used with success in malarial fevers, tubercular, infantile, and catarrhal diarrhœa. It is somewhat costly.—L. i./85,673; P.J. 1885,890. Useful to diminish secretion, especially of the lungs; recommended for bronchitis.—Pr. xxxiv.57.

An oily solution has been found useful as a paint in diphtheria.—P.J. 1886,919; L. i./86,709.

In chorea, bronchitis, and spasmodic cough, used with success.—P.J. 1887,801.

IODOFORMUM.

Iodoform (*Off.*).

Dose.—½ to 3 grains or more gradually increased.

Prepared by the action of iodine on a hot solution of carbonate of sodium or potassium in diluted alcohol. It is in shining yellow hexagonal crystalline scales, having a persistent disagreeable odour resembling that of saffron. Soluble 1 in 8 of absolute ether, 1 in 10 of ether (Sp. Gr. 0·735), 1 in 12 of chloroform, 1 in 80 of rectified spirit, 1 in 14 of oil of eucalyptus, 1 in 10 of collodion, 1 in 60 of vaseline and oil of almonds, and about the same in fats and other fixed oils. It is insoluble in water.

Iodoformi Pulvis, as sold, is in reality in very minute crystals. It is preferred for surgical purposes, as it does not clot, but can be dredged on the diseased part.

Iodoformum Præcipitatum, or precipitated Iodoform, is a primrose yellow coloured impalpable powder. It has a slight tendency to form clots. It is used for dusting on sores.

Iodoform possesses powerful antiseptic as well as slight anæsthetic or sedative properties. It is most poisonous to the virus of syphilis and gonorrhœa, and, although it contains $\frac{29}{30}$ of its weight of pure iodine, it is not an irritant, like the latter, either taken by the stomach or applied topically. It is largely employed as a general antiseptic in various forms of dressings. Several modes have been suggested of covering its characteristic odour when used for this purpose, such as mixing it with balsam of Peru, oil of eucalyptus, carbolic acid, oil of peppermint, Sanitas oil, otto of rose, tannic acid, oil of sassafras, coumarin and Tonquin bean, the two last perfume it, and balsam of Peru covers it, but not effectively.

Iodoformum Aromaticum is scented with Coumarin, 1 in 50.

When used for chancres it is best applied in ethereal solution, or iodoform powder dusted on and covered with boric acid ointment or gold-beater's skin or painted over with flexible collodion.

It is decomposed when taken internally and iodine is soon found in the urine, not being an irritant like iodine, it has been given with good effect when the latter is indicated, and has been of service in cases of irritation of the brain and spinal cord Binz

Preparations.

Buginarium Iodoformi, T.H.

Nasal bougies having a gelato-glycerine basis and containing 1/6 to ½ grain of Iodoform in each. As they gradually dissolve, the action of the Iodoform is sustained.

Collodium cum Iodoformo.

Iodoform .	5 grains.
Flexible Collodion . .	1 drachm.

Dissolve Used as a pigment to venereal sores.

Insufflatio Iodoformi, T.H.

Iodoform, in fine powder	1 grain.
Starch, in fine powder	½ grain

In specific affections of the throat, antiseptic and mildly caustic.

Insufflatio Iodoformi Composita (Westminster Hospital).

Iodoform 1 grain, Boric Acid 1 grain, Acetate of Morphine 1/6 grain.

Iodoform and Eucalyptus Bougies, Cereolus Iodoformi et Eucalypti.

Iodoform, precipitated ..	5 grains.
Oil of Eucalyptus	10 minims.
Oil of Theobroma	35 grains.

To make a bougie 4 in. long. Used for gonorrhœa. After emptying the bladder, the bougie, dipped in a mixture of eucalyptus and castor oils, or carbolic oil, is introduced into the urethra, and forced up, if possible, an inch beyond the meatus. To absorb discharge, a pad of boric lint is applied over the orifice and retained in position, if the patient is able, by drawing the foreskin over it; outside, gutta-percha tissue and isinglass plaster are used to keep the whole *in situ*, for 5 or 6 hours. Absorbent wool or lint should be placed to catch any discharge escaping. On removal, solution of sulphocarbolate of zinc (2 grs. in 1 oz.) is injected, and in acute cases another bougie introduced. The injection should be used 6 or 7 times a day, for 3 or 4 days. When the acute symptoms have subsided, any remaining discharge may be treated by injections of tannin or sulphate or acetate of zinc.—B.M.J. ii./80,124; L. ii./82,175,213.

Iodoform Gauze, 20 per cent. Is prepared and used like Iodoform Wool.

Iodoform Lint, 10 per cent.

Iodoform Wool, Gossypium Iodoformi, 10 per cent.,

Absorbent cotton wool is soaked in an ethereal solution of Iodoform so as to contain, when dry, 10 per cent. of the drug. It is much used as an antiseptic dressing to wounds, and has to some extent displaced carbolic gauze. A weaker preparation containing 4 per cent. of Iodoform has been made, but has not been found sufficiently antiseptic.

Gossypium Iodoformi, T.H.

Contains 50 per cent. of Iodoform. It is used as a stimulant and antiseptic for affections of the ear.

Ophthalmic Discs, contain $\frac{1}{1000}$ grain of **Iodoform** combined with gelatine.

Pastillus Iodoformi, T.H.

Contains 1 grain of Iodoform (more or less if prescribed) with 18 grains of glyco-gelatine in each pastil. Useful in syphilitic eruptions of the tongue, mouth, and throat, and in chronic pharyngitis.—M.T.G. ii./78,626.

Pencils of Iodoform, varying in thickness, for uterine medication, are prepared with iodoform, glycerine, and gum *q.s.*, and dried.

Pilula Iodoformi, T.H.

Iodoform	2 grains.
Sugar of Milk	1 grain.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. Dose.—1, two or three times a day.

Plaster Mulls are spread containing 50 per cent. of Iodoform.

Suppositorium Iodoformi (*Off.*).

Iodoform, precipitated ...	3 grains. (more or less if ordered).
Oil of Theobroma	*q.s.*

To make one suppository. May also be used as a pessary.

Unguentum Iodoformi (*Off.*).

Iodoform	1 part.
Benzoated Lard	9 parts.

Melt the lard, add the iodoform, stir together until dissolved and cool. Oil of rosemary recommended to cover its odour.—L. i./88,1018.

Unguentum Iodoformi et Eucalypti.

Iodoform	60 grains.
Oil of Eucalyptus	1 ounce.

Heat gently till dissolved and add to

Paraffin	2½ ounces.
Vaseline	2½ ounces.

Melted together. Stir till cold.

Iodo-Vaseline is the same as the above, only all vaseline in place of 2½ ounces of paraffin.—B.M.J. ii./82,904.

Unguentum Iodoformi Rosatum (L. Browne).

Iodoform	5 grains.
Otto of Rose	3 drops.
Vaseline	1 ounce.

Dissolve and stir till cold. In nasal affections is useful in all forms of perverted secretion.

References.

For granular eyelids, Iodoform 1 to 4 of vaseline, recommended as an ointment.—M.T.G. ii /78,193.

Editorial on its therapeutic uses, recommending collodion solution for enlarged glands, and as a local anæsthetic and dressing for ulcers.—M.T.G. ii./78,629.

In later forms of syphilis and naso-pharyngeal affections, dose 1 to 2 grains internally and externally for venereal sores and indolent ulcers where there is no active inflammation.—L. i./79,83.

Résumé of its uses, recommended as an [illegible] phthisis and for application to cancer uteri et recti. —L. i./79,105.

In phlyctenular ophthalmia and ciliary blepharitis an ointment of 1 in 12 of lard was useful.—L. ii./79,953.

External application of Iodoform to front of the chest lowers the temperature in phthisis.—B.M.J. i./79,937.

Balsam of Peru, 2 parts to 1 of Iodoform completely masks the disagreeable odour of the latter. An ointment recommended of Iodoform 1, balsam 2, vaseline or lard 8, in various cutaneous diseases. Iodoform ointment used in orchitis, enlarged glands, and venereal ulcers. —B.M.J. ii./79,498.

All chancres are best treated with Iodoform. Sprinkle a little on the wound and cover with lint and vaseline.—Br. ii./79,lx.; Pr. xxii.321.

In nasal catarrh used as snuff *per se* with success.—B.M.J. i./80,167.

Ulcers treated by dusting it on and covering with boric acid ointment. -B.M.J. i./80,362,400.

Alveolar abscesses treated by iodoform in conjunction with oil of eucalyptus —B.M.J. i./80,621.

In impetigo larvalis, sores moistened with glycerine and equal parts of Iodoform and starch at first, then pure iodoform dusted on, in many cases quickly healed.—B.M.J. i./81,767.

On the frog's heart Iodoform acts like chloroform, but much more powerfully, arresting the ventricle; this can be restored by ammonia, which is antagonistic to Iodoform and chloroform. Pr. xxvii.20.

Ulcer of the stomach treated by a 3-grain pill of Iodoform three times a day, blistering and nutrient enemata, vomiting ceased and rapid improvement resulted.—B.M.J. i./82,657.

Soft sores treated by painting with ethereal solution of Iodoform and then covered with a film of collodion or gold-beater's skin.—B.M.J. i./82,340.

Diluted with burnt kieselguhr, recommended as a dusting powder for specific sores, erysipelas, erythema, and eczema.—Pr. xxxiv.166.

Pilula Io[illegible]

port of four surgical cases under Iodoform dressings, results not satisfactory.—B.M.J. i./82,903.

Use and dangers of Iodoform dressings.—M.R. 1882,405.

One in 10 of collodion useful as a pigment in erysipelas.—Pr. xxxii.365.

Insufflation into the windpipe after tracheotomy.—L. ii./86,235,281.

Is often used in too great a quantity to wounds.—L. i./87,595.

Acute and chronic forms of toxic symptoms are produced from its application to wounds.—Pr. 1886, xxxvii. 271.

Odourless substitutes for Iodoform.

Iodol. *Syn.* —Tetra-Iodo-Pyrrol. *Dose.*—1 to 3 grains.

A micro-crystalline, brownish white powder, obtained by precipitating with iodo-iodide of potassium a moderately pure pyrrol obtained from "animal oil." It gives off iodine vapours on being heated. It is insoluble in water, but soluble 1 in 34 of glycerine, 1 in 6 of alcohol and freely in ether; also soluble in chloroform, and can be used suspended in glycerine, or in solution in rectified spirit and glycerine. With sulphuric acid it forms a green solution, and a bright red when an alcoholic solution is warmed with nitric acid. It has no unpleasant smell, produces no anæsthetic toxic action, like Iodoform, when wounds are dressed with it, and its application is painless; is useful in buboes and indolent ulcers.—B.M.J.i./86,1229; P.J.1885,367; 1886,1087.

An ointment, 1 to 5 of vaseline, and a solution, 3 parts to 35 of alcohol and 62 of glycerine, have been used for granular and chronic conjunctivitis with good results; and a solution of iodol 1, alcohol 3, glycerine 21, as a pigment in diphtheria.—B.M.J i./87,789.

Collodion and **Ether** (1 in 1) are good solvents of Iodol. These form useful applications.

With spirit and glycerine is valuable as a pigment to canal of external ear for discharges.—L. ii./86,745.

Being both odourless and non-toxic is specially valuable.—Ed. M.J. Jan. 1888,673.

Summaries of results.—Th. Gaz Jan. 1888,27; Ed. M.J. Dec. 1887,565.

Hard and soft chancres and varicose ulcers much improve under its use.—L. i./87,542.

Has some anæsthetic action, and acts as an astringent when discharge is copious.—B.M.J. i./87,460.

Iodo-Salicylic Acid and **Di-Iodo-Salicylic Acid.** These two acids are iodine compounds of salicylic acid, in which one and two atoms respectively of hydrogen are replaced by iodine. In commerce they are found as white micro-crystalline powders, slightly soluble in water, soluble in alcohol, ether, fixed oils, and like salicylic acid, also in collodion. They have the combined action of iodine and salicylic acid. The di-iodo-salicylic acid is the richer in iodine.

Iodine is contained in the last four preparations in the following proportions.—

Iodoform	381	in	394	or about	29	in	30
Iodol	508	„	571	„	9	„	10
Di-iodo-salicylic acid	254	„	390	„	2	„	3
Iodo-salicylic acid ...	127	„	264	„	1	„	2

IODUM.

Iodine (*Off.*).

The official preparations containing free Iodine are Linimentum Iodi 1 in 8, Liquor Iodi (Lugol's solution) 1 in 20 of water (with iodide of potassium 1½), Tinctura Iodi 1 in 40, Unguentum Iodi 1 in 31, Vapor Iodi, volumetric solution of Iodine, 127 in 10,000.

Tinctura Iodinei, P.E. 1 grain Iodine to 16 minims Rectified Spirit. For external use, and is preferred for injecting for hydrocele; is not miscible with water.

Carbolised Iodine Solution.—See Acidum Carbolicum, p. 27.

Collodium Iodi. – See p. 156.

Glycerinum Iodi.

Iodine	20 grains.
Glycerine	1 ounce.

Heat carefully till dissolved,—is not a mere solution, some decomposition of glycerine takes place. It forms a useful pigment, the skin does not get hardened by its repeated application, and does not peel off.—P.J. 1870,601.

Iodised Phenol.—See Acidum Carbolicum, p. 28.

Iodised Wool. Saturate Absorbent Wool 4, with Iodine 1, dissolved in Ether 10, and dry.

Injectio Iodi Hypodermica Fortissima, T.H.

Iodine	360 grains.
Iodide of Potassium ...	360 grains.
Distilled Water	4½ drachms.

Dissolve. Should measure exactly 1 ounce and contain ¾ grain free Iodine in each minim.

Dose.—3 to 5 minims for fibrous bronchocele.—Birm. Med. Rev. iv. 1875,56.

A grain of Iodine may be held in solution in a minim of fluid, by employing iodide of sodium in the proportion of Iodine 3, iodide of sodium 2, and water *q.s.* to form 3 volumes.

Iodo-Glycerine Solution.

Iodine	10 grains.
Iodide of Potassium ...	30 grains.
Glycerine	1 ounce.

Dissolve. In spina bifida about 30 minims are injected into the tumour.—L. i./76,776; L. i./77,684; L. i./82,737; B.M.J. i./82,661; L. ii./83,499.

Pigmentum Iodi et Olei Picis, U.C.H.

(Coster's Paste).

Iodine	120 grains.
Light Oil of Wood Tar ...	1 ounce.

Mix carefully, applying heat if necessary; after ebullition preserve for use. Ebullition generally takes place by the chemical action between the two ingredients, a part of the oil is oxidised and forms a resinous deposit. Hydriodic acid is probably formed to some extent, as the mixture fails to give any reaction of free Iodine.—M.T.G. i./67,34; B.M.J. i./80,192; L. i./80,55.

Similar, but more irritating, applications are made by combining Iodine with creasote or *huile de cade* in the same proportions as above.

Coster's Paste is a useful application for ringworm of the scalp; after well shaking the bottle, it should be well brushed in with a stiff brush; a scab will be produced which should be removed in a few days, the part cleansed by soaking with oil, and then soap and warm water; after drying, more paste should be applied. It seldom causes pain.

Use in the treatment of ringworm.—L. i./80,55; B.M.J. i./80,114, and Alder Smith on Ringworm.

Tinctura Iodi Decolorata, B.P.C.

Iodine	250 grains.
Rectified Spirit	5½ ounces.

Dissolve with a gentle heat, and add when cold

Strong Solution of Ammonia	10 drachms.

Keep the mixture in a warm place until decolorised, after which dilute it with (about 1 to 2 is required)

Rectified Spirit ...	*q.s.* to 1 pint.

Mix. Undiluted it may be prescribed as *Tinctura Iodi Decolorata Fortior;* if diluted, it is about the strength of the official tincture, and forms a useful application for chilblains and painting on exposed affected parts. Some iodoform is formed in solution.—P.J. 1876,42.

Tinctura Iodi Oleosa.

Iodine	1 ounce.
Rectified Spirit	9 ounces.

Heat to dissolve, and add

Castor Oil...	2 ounces.

Repeatedly applied as a pigment, it does not crack the skin, as the tincture does.

Amyli Iodidum (Buchanan).

Syn.—AMYLUM IODATUM; IODIZED STARCH, U.S.

Iodine	24 grains.
Distilled Water	*q.s.* to moisten.

Triturate and add gradually

Starch in powder	1 troy ounce.

Continue the trituration until it assumes a deep and iform colour, and dry under 104° F.

Dose.—½ to 4 drachms, in water, water gruel, or owroot with water. As a local application, is said to s valuable as iodoform.

This is a mild form of administering Iodine in weak combination for syphilis and other dis-s, the dose is pushed until free Iodine can be cted in the urine. It is recommended as an antidote poison is unknown, *e.g.*, for sulphuretted hydrogen, alkaloids, alkaline sulphides, caustic alkalies, and onia.—Pr. xxvi.128.

lupus erythematodes, doses of 1 to 4 teaspoonfuls e times a day very successful.—B.M.J. i./80,652.

Pasta Iodi et Amyli, U.C.H.

Starch, in powder ..	1 ounce.
Glycerine	2 ounces.
Water	6 ounces.

Boil together, and when nearly cold add

Solution of Iodine (*Off*)	1 ounce.

Mix well. In devising this formula the writer foun the addition of glycerine was necessary to prevent th paste turning mouldy. Useful to cleanse and foul sores, especially such as are syphilitic.—T. Fox.

It rapidly heals syphilitic ulcers, especially those of the face; if applied on lint during the night, the sores may be hidden with calamine lotion during the day

Syrupus Acidi Hydriodici, U.S., contains 1 per cent. of Hydriodic Acid. It is made by decomposing an alcoholic solution of Iodine in syrup by means of sulphuretted hydrogen, and flavoured with spirit of orange *Dose.*—20 to 40 minims. Is a mild preparation of Iodine

Vapor Iodi Ætherealis.

Iodine	3 grains.
Ether	2 drachms.
Carbolic Acid	2 drachms.
Creasote	1 drachm.
Rectified Spirit	3 drachms.

Ten minims to be dropped on the respirator for dr inhalation Thymol may be substituted for creasote.— B.M.J. 1/81,841

IRIDIN.

Syn.—IRISIN.

Dose.—1 to 5 grains, in a pill with glycerin tragacanth or extract of henbane.

The powdered extractive of a dark brown c obtained from the root of the blue flag, *Iris color*, has a bitter, nauseous, acrid taste, pos cathartic, alterative, and diuretic properties, giv hepatic and intestinal disorders. Malarial jaundic been cured by it.—B.

Pilula Iridin.—Iridin 2 grains, with Extra Henbane *q.s.*

To make one pill. Two for a dose at bedtime quickly remove slight feeling of biliousness, especially when the tongue is yellow; should be followed by a saline aperient in the morning. Iridin is gentler in action than podophyllin and more reliable when a slight cholagogue is wanted for a lengthened period.—Pr. xxiii.885; B.M.J. i./79,177.

On dogs acts as a powerful hepatic and intestinal lant.—B.M.J. Rep. 1878,66.

fortable purge for biliousness, 4 grains com- with one grain of euonymin. –B.M.J. i./79,932.

ld aperient cholagogue, produces bilious stools, does not irritate rectum, and has no subsequent astringency.—L. ii./62,239.

In gallstones, 1 grain every night for twelve nights removes liability to.—B.M.J. ii./81,694.

In vomiting of pregnancy 2-grain doses at bedtime followed by a saline purge.—M.T.G. i./84,539.

JABORANDI.

Jaborandi (*Off.*).

Syn.—PILOCARPI FOLIOLA.

Dose.—5 to 60 grains of the powder.

The dried leaflets of a rutaceous shrub, a species of *Pilocarpus*, probably *P. pennatifolius* imported from Brazil, principally from Pernambuco. The leaflets of . *Selloanus* are also imported from Rio de Janeiro under e same name, but are much less active. Jaborandi was st introduced into Britain by the writer in 1874. e leaves are of a dull green colour, large, pinnate, having o 5 pairs of leaflets and a terminal one. The leaflets coriaceous, 4 to 6 inches long, oblong, lanceolate, emarte, smooth, or only slightly tomentose and full of cid dots. The leaves of several species of *Piper* are known in Brazil as Jaborandi, which should not be conded with the *Pilocarpus* variety. The *Piper* leaves brighter green in colour, more papyraceous, and they not pinnate. The latter have been imported and sold e London market as Jaborandi. They are said to ess similar therapeutic properties, but have not been fully investigated. The true Jaborandi is a powerful rific and sialogogue; after a time a large dose acts as an emetic, contracts the pupil of the eye, and causes the approximation of vision. These properties are due to an alkaloid **Pilocarpine** contained in it. A second alkaloid Jaborine, which is said to have antagonistic properties to pilocarpine, is probably a derivative from it; more recently two other alkaloids—Pilocarpidine and Jaboridine—have been isolated from the leaves. Pure Pilocarpine is a colourless, syrupy, liquid, odourless alkaloid, which forms crystallizable salts with acids (see Pilocarpina). Jaborine is more liquid, and does not form crystallizable salts. Pilocarpine and Pilocarpidine have a similar physiological action, and their derivatives Jaborine and Jaboridine, are also allied in being antagonistic to them. Possessing such marked physiological properties, Jaborandi has been used in a great variety of diseases, most successfully in asthma, diabetes, and as an antidote to belladonna poisoning. Children proportionately are not affected by the drug so much as adults. Description and physiological action (on the writer).—P.J. 1874,364: and 1875,561; L. i./75,138; B.M.J. i./75,142; M.T.G i./75,92.

Description and botanical source.—P.J. 1875,581,641

Extractum Jaborandi (*Off.*).

Dose.—2 to 10 grains, in pills. It is a proof spiri extract.

Extractum Jaborandi Fluidum, Liquo Jaborandi.

Dose.—10 to 60 minims. It is an aqueous flui extract with spirit *q.s.* to keep it A drachm = drachm of leaves, is more palatable than the tincture.

Infusum Jaborandi (*Off.*).

One ounce to a pint of boiling water.

Dose.—1 to 2 ounces as a diaphoretic.

Tinctura Jaborandi (*Off.*).

Dose.—30 to 60 minims. Four drachms drachm of leaves, obtained by percolation with p spirit; 5 to 20 minims 3 times a day, or at bed only, check night sweating.—Pr. xxiii.430.

References.

Physiological action on submaxillary gland of do Jour. Anat. and Phys. ix.173; x.187.

Physiological and therapeutical action.—L. i./75,1 B.M.J. i./75,548.

Diabetes insipidus, 2 cases relieved by Jaborandi. — L. ii./75,242.

Case of diabetes treated unsuccessfully by.—L. ii./75,775.

Puerperal albuminuria and convulsions, its effects on. —L. i./79,464.

Is only a feeble hepatic stimulant on dog.—B.M.J. 79,187,172.

Tension of accommodation, increase of lachrymal secretion and glistening scotomata caused by taking infusion of.—Pr. xxii 458.

Therapeutic study of its uses and properties —B.M.J. ii./80,889, and i./81,969

The sweating and salivation from a full dose of Jaborandi or Pilocarpine persists from 2 to 4 or 5 hours, the symptoms come on in about 10 minutes after taking the dose if external conditions are favourable. Hypodermically the alkaloid acts in 3 to 5 minutes. A reduction of temperature on an average of 0·9° occurs under the influence of the drug. The face flushes first and then pales; it causes contraction of the pupil, tension of accommodation with approximation of the nearest and farthest points of distinct vision, and amblyopic impairment of vision from diminished sensibility of the retina. These effects do not last long. It is slightly narcotic, sometimes causes sickness in large doses, promotes secretion of milk and is antagonistic
atropine.—-R.

locarpina, Pilocarpine.

on The pure alkaloid is not used medicinally. It has
nerve synthetically prepared from pyridine, pilocarpidine
ii./86 an intermediate product. For characters and
Hy rties, see p. 232.

death **carpinæ Hydrochloras,** Pilocarpinum
Pue **Hydrochloricum, P.G.**
carpine *e.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain by mouth or $\frac{1}{10}$ to $\frac{1}{3}$ grain
recover ermically. In minute granular snow-white
Ther s, slightly deliquescent and very soluble in water.
Congre lt is preferred on the Continent.

In b **arpinæ Nitras** (*Off.*).
ment, 4 *e.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain as the hydrochlorate.
a direct minute white granular snow-like crystals, but may
—L. i tained in large white prismatic crystals. Soluble
0 of water, freely soluble in hot, but very slightly

in cold alcohol. This salt, preferred in England, was the first pure preparation of Pilocarpine prepared, and obtained by the writer by crystallizing it from an alcoholic solution, thus freeing it from impurities.

Guttæ Pilocarpinæ, R.O.H.

Nitrate of Pilocarpine ..	2 grains.
Distilled water . .	1 ounce.

Dissolve. Used like Physostigmine to contract the pupil.

Injectio Pilocarpinæ Nitratis Hypodermica, R.O.H.

Nitrate of Pilocarpine .	1 grain.
Distilled water . .	20 minims.

Dissolve. *Dose.*—2 to 6 minims.

Hypodermic Lamels contain $\frac{1}{4}$ grain, and **Ophthalmic discs** $\frac{1}{500}$ grain, combined with gelatine.

Pilula Pilocarpinæ Nitratis.

Nitrate of Pilocarpine, $\frac{1}{20}$ grain triturated with sugar of milk and glycerine of tragacanth *q.s.* to make one pill.

References.

Useful for checking night sweating, a pill 2 or 3 times a day or repeated once or twice during the night.—Pr. xxiii.430.

The salts of pilocarpine possess all the before-mentioned properties of jaborandi in a marked degree; applie topically, they contract the pupil of the eye. Pilocarpine antagonistic to atropine, and a complete antidote to pois- ing by the latter. It promotes the growth of the hai alopecia. Large doses are powerfully diaphoretic, s- ones ($\frac{1}{20}$ grain) check night sweating of phthisis - not over-dry the skin. Pr. xxxiii 430.

Acute nephritis, used with effect in 0·03 gr ($\frac{1}{2}$ grain) for a dose; a 2 per cent. solution applied eye produces strong contraction. —Binz.

Unilateral sweating, experiments on, pilocarpine the normal more than the diseased side.- -Pr. xvii

In kidney disease and dropsy, hypodermic use grain for infants, or $\frac{1}{7}$ grain for 6 years, act sialogogue and diaphoretic. -Pr. xxi.132.

In rheumatic iritis.--Pr. xxi.209.

Use as an oxytocic.—Pr. xxii.135.

The hydrochlorate applied locally caused high of myosis and slight spasm of accommodation; i hypodermically, high degree of spasm of accommodation and slight myosis.—Pr. xxii.458.

To contract the pupil of the eye is less active (slightly) than physostigmine.— B.M.J. ii./79,364.

In poisoning by atropine 2½ grains, hydrochlorate of pilocarpine 2½ grains in centigramme (about ⅐ grain) doses was a successful antidote.—B.M.J. i./80,366.

Antagonism to atropine.— L. ii./79,474.

In intermittent fever ⅐ to ⅕ grain of nitrate promptly cuts short the chill, produces sweating, and avoids hot stage altogether. —Pr. xxiii.365.

Summary of uses:—useful in nephritis, assists pains of labour, but will not originate them, diminishes urine in diabetes; action similar to physostigmine but less irritating, in diseases of the eye; said to promote growth of the hair.—Pr. xxiii.374.

Three hypodermic injections successful in a comatose case of uræmia, albuminuria, with convulsions and complete anuria. - Pr. xxiv.129.

Relieves prurigo; in two cases of alopecia result undecided.- Pr. xxv.50 , M.T G. ii./80,554.

In skin diseases where the secretion of sweat was more or less altered, ⅙ grain hypodermically twice a day found useful in prurigo, urticaria, and some cases of alopecia.—Pr. xxvi.128.

In asthma, doses of ⅕ to ⅓ grain of the hydrochlorate, hypodermically given systematically at intervals, is very serviceable.— B.M.J. i./80,917,960.

Action on pupil of eye is double, both dilates and contracts it, causes contractions by stimulating the third nerve. —L. ii./80,779. Increases tension of eye.—L. ii./86,183.

Hydrophobia, two cases treated by ⅓ grain injections, death resulted in both cases. —L. ii./80,491.

Puerperal convulsions treated by injection of Pilocarpine, pains became stronger, fœtus expelled, and rapid recovery.—B.M.J. i./81, 511.

Therapeutic uses and physiological effects.—Med. Congress Rep. 1881,i.491.

In belladonna poisoning by 18 drachms of the liniment, 4 hypodermic injections of one-fifth of a grain was a direct antidote, and did not cause the least perspiration. —L. i /81,951 ; B.M.J. i./81,594.

Atropine poisoning successfully treated by pilocarpine given hypodermically.—B.M.J. i./81,300.

Relieved puerperal convulsions by two hypodermic injections of 15 minims of 1 per cent. solution. These caused much salivation, recovery was almost hopeless; but the pains improved, and fœtus was expelled, and, although unconscious for two days after, recovery was rapid.—B.M.J. i./81,511; L ii./86,1019

Hydrophobia, one case cured by hypodermic injections of $\frac{1}{8}$ grain doses of Pilocarpine.—M.R. 1883,146.

Fetid perspiration of the feet is cured permanently by hypodermic injection of Pilocarpine.—L. i./81,638; Pr. xxvii.461.

In diphtheria, notice of its use, combined with pepsin and hydrochloric acid; the abundant salivation detaches the membrane, &c.—L. ii./81,962; Pr. xxvi.378,461, and Pr. xxix.62.

Syphilis, 32 cases, 78 per cent. cured by Pilocarpine injections.—Pr. xxvii.380.

Action of injections of Pilocarpine on the hair, in one case changed colour from blonde to black, in another caused rapid growth.—L. i./82,78.

Case of hydrophobia treated successfully by 3 hypodermic injections of hydrochlorate of pilocarpine, 1 centigramme ($\frac{1}{7}$ grain).—L. i./82,1056.

In a case of locomotor ataxy, the hypodermic injection relieved the pain after morphine had failed.—L. ii./82, 909.

In deep-seated diseases of the eye, optic neuritis, with symptoms of meningitis at the base of the brain, and in conjunction with antisyphilitic treatment in specific eye diseases is often useful.—B.M.J. ii./82,684.

Recommended for myxœdema.—L. ii./83, 951; B.M.J. ii./83, 1071; ii./84,681.

Diabetes, a case recovered under its use.—L. ii./84,275.

Intense headache, from syphilitic lesion of brain, relieved by subcutaneous injection of $\frac{1}{8}$ to $\frac{1}{3}$ grain of hydrochlorate of pilocarpine.—Pr. xxvii.261.

Severe hiccough checked by $\frac{1}{4}$ grain.—B.M.J. ii./85, 1158.

Rheumatic tetanus recovered from under its use.—Ed. M.J. March, 1887,848.

Arrested secretion of milk, is restored, ¼-grain doses.—L.ii./85,885.

In puerperal convulsions it is a failure.—L.ii./87,807.

Politzer recommends its use in syphilitic disease of the labyrinth.—Brunton.

In yellow fever, ¼-grain doses given.—P.J.1887,540.

JUGLANDIN.

Dose.—2 to 5 grains, in a pill with mucilage.

The powdered extractive obtained from inner bark of root of butter-nut, *Juglans cinerea.* Colour dark brown. Is laxative and cathartic, without debilitating, useful in habitual constipation and biliousness.

A moderately powerful hepatic and mild intestinal stimulant.—B.M.J. i./79,177; Pr. xxiii.337.

Spiritus Nucis Juglandis, distilled from the walnut, *Juglans regia,* is used as an antispasmodic, and for checking sickness of pregnancy. *Dose.*—1 to 4 drachms.

Kairine.—See p. 133.

KAOLIN PRÆPARATUS.

Prepared Kaolin.

Native white silicate of alumina, which has been purified by elutriation from free silica and undecomposed felspar; it is a pearly white powder, unctuous to the touch and free from grittiness. It forms a useful absorbent powder to apply to infants and to irritated conditions of the skin generally. A special preparation, agreeably perfumed, having similar chemical and physical properties, is sold under the name of Cimolite. It is a pure white soft powder. Kaolin is unacted upon by most chemical reagents; it is, therefore, useful for diluting such salts as nitrate of silver and permanganate of potassium, either to form them into powders or into pills.

Preparation.

Unguentum Kaolin.

Vaseline	1 ounce.
Paraffin	1 ounce.
Melt and add	
Kaolin	1 ounce.

Stir till cold.

Spread on rag to apply to abraded skin; it allays irritation. It forms a useful excipient for nitrate of silver and permanganate of potassium pills.— See Potassii Permanganas, p. 311.

Absorbent Powders.— In addition to Kaolin the following are used medically :—

Fuller's Earth, is also a native silicate of aluminium, with traces of iron, grey in colour when in powder.

Talc, a native foliaceous silicate of magnesium; that obtained from the Tyrol -Venetian Talc is very soft and unctuous.

French Chalk, a harder silicate of magnesium than talc, forms a soft powder.

Selenite, a transparent variety of gypsum, native sulphate of calcium reduced to powder, is soft and pearly.

Kieselguhr, a diatomaceous earth, known as white peat; when burnt produces an extremely light ash, which is very absorbent and antiseptic.—Pr. xxxiv.166.

Oxychloride of Bismuth. See Bismuthi Oxychloridum, p. 91.

Oxide of Zinc, various **Starches,** powdered **Orris Root,** and mixtures of these, perfumed, are employed for toilet purposes.

Calamina Præparata, Prepared Calamine (*Off.*).

Syn.—LAPIS CALAMINARIS PRÆPARATUS.

Impure oxide of zinc prepared by calcining native Calamine (carbonate of zinc) and reducing it to an impalpable powder; should be almost entirely soluble in diluted sulphuric acid, to which solution, when potash or ammonia is added in excess, the precipitate first formed is redissolved. Genuine Calamine, on account of its physical characters, when of a neutral flesh tint, is preferred to the other zinc powders, as a dusting powder or for making lotions.

Ceratum Calaminæ, P.L.

Syn.—TURNER'S CERATE

Calamine and Yellow Wax, of each 15, Olive Oil 40. A useful application to burns

Lotio Calaminæ, U.C.H.

Levigated Calamine ...	40 grains.
Oxide of Zinc	20 grains.
Glycerine	20 minims.
Water (or Rose Water) to ...	1 ounce.

Elutriate calamine and oxide of zinc by triturating them in a tar with successive portions of the water and decant from the siliceous matter, and add the glycerine.

Used in ema, especially where the surface is red and tender, also conceal acne spots on the face. One rain of chloride of mercury may be added to 6 nces of

Ungue m Calaminæ (*Off.*).

Prepar Calamine 1, Benzoated Lard 5.

LANOLINUM.

Lanolin. *Syn.*—ADEPS LANÆ, WOOL FAT.

The purified fat, chiefly cholesterin in combination with stearic and other fatty acids, obtained from sheep's wool, and mixed with about 40 per cent. of water.

It is a cream-coloured mass of thick ointment-like consistence and neutral reaction; nearly inodorous; melting at 1[illegible]4° F., with separation of water. It is insoluble in water, of which, however, several times its weight may be incorporated with it without affecting its consistence. It is partially soluble in alcohol, while ether and chloroform dissolve only the fats it contains.

Lanolinum Anhydricum, Anhydrous Lanolin. Is the above deprived of its water. It is an unctuous, translucent, pale-brown mass, and is occasionally in request.—B.M.J. i./86,97,282,1105; ii /87,1087.

Neither variety mixes well with glycerine.

Agnine is the name given to a similar substance of American origin.

Originating from keratinous tissue, Lanolin has affinity for, and is readily absorbed by, the skin. It causes no irritation, and is useful in massage. It helps absorption of narcotic extracts, quinine, iodine, iodide of potassium, and chaulmoogra oil. Iodine appears in the urine in three minutes after friction. Washing the skin with ether facilitates its absorption. It is more readily absorbed in children than in adults. Useful combined with chrysarobin in psoriasis, ringworm, and tinea favosa, and with salicylic acid for eczema; or with mercury, as in

Lanolinum Hydrargyri.

Mercury 100, Lanolin 200, Mercurial Ointment 5, Mutton Suet 50. This is said to have special virtues for inunction.—M.P.C. ii./86,327.

Essay by Liebreich on its characters an ses.—B.M.J. ii./85,1075; B.M.J. ii./86,1757.

Mercurial taste has been perceived in mout a few minutes after inunction of Lanolin contain g 1 of corrosive sublimate in 1,000 parts.—B.M.J. i./86,97; ii./86,1178.

Quinine and narcotics are well absorbed from it.—B.M.J.ii./86,116.

Useful in sycosis, impregnated with sulphuretted hydrogen, of which it absorbs 110 times its weight.—L. ii./86,888.

Should not be mixed with other animal fats.—B.M.J. ii./86,107.

Alkaloids are absorbed with special readiness from this basis. -L. ii./86,31.

Its rapid absorption is due to the similarity between it and the natural fat of man's epithelium.—B.M.J. ii./86, 572.

LEPTANDRIN.

Dose.—¼ to 2 grains in a pill, with glycerine of tragacanth.

A dark greenish brown resinoid powder obtained from culvers root, *Leptandra Virginica.* It excites the liver and promotes flow of bile, without any irritation of the bowels—¼ to 2 grains twice or three times a day. Is useful in dyspepsia, diarrhœa, and cholera infantum.

One grain is a very useful cholagogue and alterative; 2 grains have an aperient action; acts well combined with podophyllin in bilious headache.—B.M.J. ii./76,118.

On dog a moderate hepatic, but feeble intestinal stimulant.—B.M.J. Rep. 1878,66; Pr. xxiii.410.

Aperient, alterative, and tonic to the stomach, has been given in diarrhœa and dysentery.—L. ii./62,239.

LITHIUM.

Lithii Benzoas, Benzoate of Lithium, U.S.

Dose.—2 to 10 or 30 grains.

Usually a light white crystalline powder, soluble 1 in 4 of water; contains about 95 per cent. of benzoic acid. Used as an antilithic.

Lithii Bromidum, Bromide of Lithium, U.S.

Dose.—5 to 15 grains.

A white granular salt, very deliquescent, odourless, having a sharp, somewhat bitter taste and neutral reaction; very soluble in water and alcohol. A given weight contains nearly half as much more of bromine as the same weight of bromide of potassium, and its effect as a bromide is said to be even greater than this ratio, especially as a hypnotic, and to be used in epilepsy.

Lithii Carbonas (*Off.*). *Dose.*—3 to 6 grains.

Lithii Citras (*Off.*) *Dose.*—5 to 10 grains.

Granular Effervescent Citrate of Lithium.
Dose.—1 or 2 drachms. Contains 1 in 30.

Lithii Guaiacas, Guaiacate of Lithium.
Dose.—5 grains twice a day.

Prepared by digesting guaiacum resin in an aqueous solution of lithia, decanting the clear solution, evaporating, and scaling it. Contains lithia 1, guaiacum resin 3. Given for chronic gout and rheumatism.

Lithii Hippuras, Hippurate of Lithium.
Dose.—5 to 20 grains.

In light white minute crystals, freely soluble in water, is a powerful solvent of lithates; useful in gout and rheumatism.

Lithii Salicylas, Salicylate of Lithium, U.S.
Dose—5 to 20 grains for rheumatism and gout. A deliquescent white powder, soluble 1 in 1 of water.—L. ii./85,1161; Y.B. 1886,72.

Granular Effervescent Salicylate of Lithium contains 2 grains in a drachm. *Dose.*—1 or 2 drachms.

Lithii Sulpho-Icthyolas.—See p. 219.

LUPULINUM.

Lupulin (*Off.*).

Dose.—2 to 5 grains in a pill, with glycerine and spirit.

The bright brownish yellow, or yellowish brown glandular powder—lupulinic glands—separated from the strobiles of the hop—*Humulus Lupulus*. It is aromatic and bitter, and contains most of the active properties of the hop—the resin and volatile oil. Should not yield above 15 per cent. of ash. It is used in insomnia and for alcoholism.

Tinctura Lupulinæ, U.S., 1870. 1 in 8 S.V.R.
Dose.—10 to 60 minims.

Tinctura Lupuli (*Off.*) *Dose.*—½ to 2 drachms. Is prepared from the dried Strobile 1 in 8 S.V.T. A much more aromatic preparation is made from the fresh fruit.

LYCOPODIUM.

Clubmoss Spores.

The spores of *Lycopodium clavatum*, common clubmoss, form a fine, mobile, inodorous, tasteless powder, with a pale yellow hue. Lycopodium is a strong repellent of aqueous moisture, floats on water, yet sinks in it after boiling. By strong trituration it coheres and leaves an oily stain on paper. It is immediately moistened by oily and alcoholic liquids, chloroform and ether, and, having great power in absorbing oils and oleo-resins, it is a useful excipient to form these into pills. It forms a good pill powder, protecting hygroscopic pills, is useful as a diluent for insufflations for the throat and ear, and as an inert dusting powder for excoriated and weeping surfaces of the skin. When ignited, it explodes with a flicker. Has been given in cases of frequent micturition, and irritation or spasm of the bladder, when not diseased.—L ii /87,605.

Tinctura Lycopodii. *Dose.*—15 minims to 1 drachm. Lycopodium, first soaked in ether and dried, 1, Rectified Spirit 10.

MALTUM.

Malt. *Syn.*—BYNE.

Malted barley contains the ferment Diastase, which possesses the property, under certain conditions, of converting starch into dextrin and sugar (maltose). Malt flour and other preparations of malt are used medicinally to assist the digestion of starchy foods.

Malti Pulvis. *Dose.*—1 to 2 drachms.

Malt flour or entire malt powdered, is added to baked wheaten flour in various proportions to form the popular infants' foods. When these are mixed with hot water or a mixture of hot milk and water, the starch contained in the wheaten flour becomes soluble and digested into dextrin and malt sugar. The diastasic property of malt is most acute in aqueous solution at 140° F.—a boiling heat destroys it. A small teaspoonful of malt flour may be sprinkled over or mixed with cooked farinaceous foods, such as porridge, gruel, bread and milk, or arrowroot, when cool enough to sip, or it may be infused in a cup of coffee, glass of beer, or cold water; the latter form pleasant and useful beverages when taken with meals, to assist the digestion of bread or other farinaceous food.

Extractum Malti, P.G., U.S. *Syn.*—EXTRACTUM BYNES. *Dose.*—1 to 4 drachms.

A syrupy, yellowish brown liquid, having a pleasant sweet taste, consisting principally of dextrin and malt sugar (maltose), and possessing some diastasic properties. According to the German pharmacopœia, it is made by first moistening ground Malt with cold water, macerating and adding more water and digesting at 149° F., then *boiling*, straining and evaporating to a thick extract. The *boiling* destroys the diastasic property, but makes the extract keep better. Much of this preparation in commerce is weak in diastase, being made by mixing with water at the proper temperature 1 part of bruised Malt with 6 to 10 parts of maize or other cereal flour,—the starch of the latter is converted into dextrin and maltose; on pressing, filtering, and evaporating at a low temperature, a syrupy extract is obtained which still contains some unexhausted diastase. Extract of Malt and its preparations are prescribed in cases of debility of all kinds, as a restorative, like cod liver oil, but particularly where digestion is weak.—B.M.J. i/79,683; L. i./79,125; M.T.G. ii./78,529 Pr. xxxiii.340.

Extractum Malti Ferratum, P.G.

Pyrophosphate of Iron ... 2 parts.
Water .. . .. 3 parts.
Dissolve and add
Extract of Malt ... ... 95 parts.
Mix. *Dose.*—1 to 4 drachms.

Extractum Malti cum Oleo Morrhuæ.

Dose.—1 to 4 drachms.

The percentage of oil in this preparation is variable and it quickly turns rancid; a little salicylic acid is often added to prevent it becoming so.

Infusum Malti.

Malt, bruised	... ...	3 ounces.
Cold Water	... ...	10 ounces.

Infuse 12 hours, and strain to produce 7 ounces.

Dose.—2 to 4 drachms with meals, in water or milk, or added to cooked gruel or porridge (Pr. xxiii.401). This infusion is rich in diastase but keeps badly; a minim of chloroform added to each ounce will keep it.

MANGANESIUM.

Manganese.

Manganesii Oxidum Præcipitatum.

Dose.—3 to 10 grains, or more, in pills with syrup.

Consists principally of hydrated manganic oxide, a bulky blackish brown powder, free from grittiness and entirely soluble in cold hydrochloric acid. Is more suitable for medicinal purposes than the above. Useful in gastrodynia, and in amenorrhœa taken 3 or 4 times a day before expected period.—L. i./83, 7.

In chlorosis assists the action of iron salts.—B.M.J. ii./85,473

Is equally potent for amenorrhœa and less irritant than the permanganates.—B.M J. ii /86,1114.

Manganesii Hypophosphis, Hypophosphite of Manganese. *Dose* —1 to 10 grains,

A white or slightly rose-tinted powder, soluble in 10 of water.

Manganesii Phosphas, Phosphate of Manganese, Manganous Phosphate.

Dose.—1 to 5 grains.

A white powder, generally with a pinkish tint, insoluble in water. From ½ to 1 grain is sometimes dissolved in 1 drachm of syrup of phosphate of iron for a dose.

Manganesii Sulphas, Sulphate of Manganese, Manganous Sulphate. *Dose,* of powder.—2 to 10 or 60 grains or more.

Is usually met with as a white powder with a faint pink tint, due to a little manganic sulphate. Crystals may be obtained with difficulty, in form like ferrous sulphate but with an amethyst tint. For jaundice, 60 grains is a cholagogue purgative.

It does not excite the liver, though it is a powerful excitant of the intestinal glands of the dog.—B.M.J. i./79,105,177.

Potassii Permanganas.—See p. 311

MENISPERMIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive of a pale brown colour obtained from the root of yellow parilla—*Menispermum fenestratum*—and *M. Canadense.* Is an alterative tonic, laxative, diuretic, stimulant, and resolvent, useful in indigestion.

Pilula Menispermin.

Menispermin	2 grains.
Glycerine of Tragacanth . .	*q.s*

To make one pill. Taken 3 times a day, is a tonic, laxative, diuretic, and alterative —L. ii./62,20.

On the dog is a slight intestinal, but not a hepatic stimulant.—B.M.J. ii./78,909, Pr. xxiii 423.

MENTHOL.

Menthol (*Off.*).

Dose.—½ to 2 grains or more in a pill with powdered soap, or in solution in olive oil.

A white crystalline stearoptene resembling sulphate of magnesium in appearance if dry, or in long needles, sometimes in crystalline masses, moist from adhering liquid oil. Imported principally from Japan and China, and obtained from *Mentha arvensis, vars piperascens et glabrata,* it melts when pure at 97° F. It is contained in solution in Menthon, the residual liquid of Japanese peppermint oil, to the extent of 40 per cent., from which it may be separated by the action of hydroxylamine. The remaining Menthon may be converted into Menthol by the action of sodium on its

Extractum Menyanthis et Glycyrrhizæ Liquidum.

Dose.—½ ounce in half a tumbler of hot water; this dose is equal to ¼ ounce of the drug, and has liquorice to cover its bitterness.

METHYL CHLORIDUM.

Chloride of Methyl.

This gas is prepared in Paris and compressed into iron cylinders (in the form that nitrous oxide is generally supplied to dentists). It is used there as a local anæsthetic. The gas is emitted from the cylinder and, applied as a jet, freezes the part by the intense cold it produces, but if too freely applied the skin is ecchymosed.

It has been used in the treatment of sciatica with success, also in articular rheumatism (acute and subacute), nodular and chronic rheumatism, stitches in the side, pleurisy, tuberculosis, and pneumonia. The spray is applied obliquely, not perpendicularly, on the cutaneous surface, and only for five or six seconds, else, if prolonged, blisters or eschars may result.—B.M.J. i./85,813. Sprayed on skin of face for neuralgia has been found useful.—B.M.J. i./86,714; L. i./88,489. Not adapted for general anæsthesia.—B.M.J. i./88,1211.

METHYLAL.

Dose.—15 to 30 minims in aqueous mixture.

Is recommended as an anæsthetic and hypnotic. It is prepared by distilling methyl-alcohol with an oxidizing mixture of manganese dioxide and sulphuric acid, and treating the distillate with potash lye to separate methyl formate, which passes over with the Methylal. Methylal is a colourless, mobile, volatile liquid, Sp. Gr. 0·855, boils at 42° C., is slightly acid to litmus, has an odour recalling those of choroform and acetic ether, and a burning aromatic taste, but produces a cold sensation when placed on the skin. It augments the heart-beats, slightly lowers the blood-pressure, and causes slower and deeper respirations. It is antidotal to strychnine, suspends the spasm, and has been given to relieve nervous stomachic pains,—1 in 60 to 100 parts of diluted syrup.—L. ii./86,888.

Topically as an anæsthetic 1 in 6 of almond or olive oil, or with simple cerate.—Th. Gaz. Dec. 1887, 821.

In angina, 9 parts with 1 of nitrite of amyl prolongs the action of the latter, and lessens its suddenness. L. ii./87,861; C. & D. ii /87,714; Asclepiad, Feb. 1887.

In delirium tremens, 21 cases, 15 minims of 10 per cent. aqueous solution proved useful in procuring sleep; in 6 by one injection; others after repetition every two or three hours.—B.M.J. i./88,481.

As an anæsthetic suggested admixture with ether.—M.P.C. 1887, 417.

Inhalations do not affect the heart.—L. i /87,951.

Is unfitted for subcutaneous use.—B.M.J. i./87,1126.

Is very innocuous, but effect is soon lessened by use. —Pr. xxxix. 138; B.M.J. ii./87,895.

Given internally does not depress the heart.—B.M.J, i./88,481.

METHYLENE.

Syn.—Formerly called Bichloride of Methylene.

Under this name is sold an anæsthetic, which is a dense colourless ethereal liquid, with a chloroform-like odour. It is obtained by the action of metallic zinc on chloroform and alcohol.

Lectures on introducing it as an anæsthetic.—M.T.G. ii./67,423,479,559,693.

Is as suitable for long operations as chloroform.—L. i./71,591. Is peculiarly safe.—B.M.J. i./88,1211.

Used with most favourable results at Guy's Hospital.—L. i./71,634.

Given 1800 times without ill effects; it is more rapid in producing unconsciousness than chloroform, and quicker in passing off.—L. i./72,671.

By Junker's apparatus, air charged with methylene vapour is given, not the vapour itself, and, so employed, was efficient and safe.—B.M.J. ii./77,176.

Report on anæsthetics; it is a mixture; effect on rabbits described; its danger is from syncope, not coma. —B.M.J. i /79,1,3.

Deaths from inhalation of.—B.M.J. ii./74,823; ii./75,113; ii./84,826,975.

A commercial sample had Sp. Gr. 1·326, is said to be chloroform reduced to this density by alcohol.—N.R. xii.43: B.M.J. i./84,737.

MOLLINUM.

Mollin.

A white inodorous superfatted soap, containing about 17 per cent. excess of fatty matter. It is of unctuous consistence, and is recommended as a basis for ointments in place of lard, lanolin, &c., as it is readily washed off with water, with which it forms a lather. It thus leaves the skin fresh and supple, and it makes no grease spots on linen. It is to be preferred to petroleum bases where absorption is required, and is specially recommended in combination with mercury, and with iodide of potassium, forming **Mollinum Hydrargyri** and **Mollinum Potassii Iodidi**; these contain 33 per cent. and 10 per cent. respectively of mercury and iodide of potassium. It is not even incompatible with perchloride of mercury, with which it forms a useful application for gynæcological cases in 1 per cent. admixture or weaker. It blends well with respectively 3 to 5 per cent. of carbolic and salicylic acid and thymol, and with tar (birch tar particularly) 10 to 20 per cent. for psoriasis;—with 30 to 50 per cent. of sulphur or 10 per cent. of storax for acne and scabies;—with 5 per cent. of chrysarobin or naphthol;—and with 10 per cent. of ichthyol, resorcin, iodoform, naphthalin, or white precipitate. Mollinum Hydrargyri and some of the other preparations are commercial products

MORPHINA.

Morphine.

Dose.—$\frac{1}{10}$ to $\frac{1}{4}$ grain.

This alkaloid, to which the medicinal effects of opium are principally due, in the pure state is, if precipitated from an aqueous solution of its salts, a white amorphous powder, or, if crystallized from an alcoholic solution, is in white, shining, transparent acicular prisms, insoluble in water and ether, freely soluble in boiling and but slightly in cold alcohol and fixed oils; soluble in caustic potash solution, milk of lime, and readily dissolved by acids, forming salts, from solutions of which it is precipitated by ammonia, but not by potash. The crystallized alkaloid is a hydrate containing one molecule of water of crystallization; it loses about 6 per cent. on drying at 90° C.

3 parts of morphine are medically and commercially reckoned equal to 4 parts of either of the official salts (acetate and hydrochlorate). Morphine preparations are incompatible with those of perchloride of iron.

Oleatum Morphinæ.

A solution of the alkaloid morphine 1 grain in oleic acid 1 drachm, is sold under this name for local application to relieve pain. Sometimes it is ordered twice or three times the above strength. Oleic acid will dissolve as much as one-tenth of its weight of pure morphine. The addition of morphine is made to oleate of mercury applications when the latter cause much pain.—L. i./72,809.

Morphinæ Acetas (*Off.*).

Dose.—⅛ to ½ grain, which may be increased.

In commerce a white amorphous powder, soluble 1 in 2½ of water (if recently made and not very dry), soluble also in spirit. Liable to change and darken in colour.

The dose of morphine and of opium is often much increased when persons become addicted to their use. The author, under medical direction, for several years anterior to 1868, dispensed for a lady, who had previously been a dipsomaniac, 6 dozen powders weekly, each containing 2 grains of acetate of morphine and 8 grains of sugar of milk. She took on an average over 20 grains of the morphine salt daily for years She had taken powders containing as much as 8 grains of pure acetate of morphine in each, the sugar of milk was added gradually to replace the morphine, hoping to break her of the habit, but this had only the effect of making her take an increased number of the powders, so as to obtain about the same amount of morphine to satisfy her craving.

Injectio Morphinæ Hypodermica (*Off.*).

Dose.—1 to 6 minims; 10 minims = one grain of the acetate.

Is made by precipitating the alkaloid from 92 grains of hydrochlorate of morphine by means of excess of solution of ammonia, washing the precipitate and redissolving by adding acetic acid to make the mixture very slightly acid, further adding distilled water *q.s.* to measure exactly 2 fluid ounces, and then filtering. The Pharmacopœia states that 1 drachm contains 6 grains of acetate of morphine, corresponding to 4·25 grains of morphine when precipitated with ammonia and dried.

A solution, 1 grain in 6 minims, is also frequently used. Acetate of morphine becomes less soluble with age. It is necessary either to use it freshly prepared or to use an equivalent quantity of the pure alkaloid dissolved by means of acetic acid. The writer recommends the following process for producing the injection.

Injectio Morphinæ Acetatis Hypodermica.

1 in 6. *Dose.*—1 to 3 minims.

Morphine (pure alkaloid) ... 60 grains.
Place in an ounce vial and moisten with
Distilled Water ... ... 6 drachms.
Add
Acetic Acid ... ... 40 minims, or *q.s.*
To make the solution barely bright after being kept closed at a gentle heat for 24 hours. Then filter and sprinkle and wash the filter with sufficient
Distilled Water to make the
product measure exactly .. 1 ounce.

Shake to make uniform, and keep the solution from the light in stoppered bottles, the stoppers of which should be coated with paraffin wax, by first heating them and rubbing the ground part over with the wax as it melts. If the stopper be then inserted firmly, it prevents any oozing or incrusting of the morphine around the neck of the bottle; a few drops of glycerine added, will, it is said, prevent any incrustation. It has a straw colour, changing to vinegar-brown on keeping.—P.J. 1870,481; B.M.J. ii./80,728, B.M.J. i./81,146.

Hypodermic injection of ¼ grain in a young adult caused stertor and stupor.—B M.J. ii /86,97.

Injectio Morphinæ et Atropinæ Hypodermica.

Injection of Acetate of Morphine
(1 in 6) ... ... 3 drachms.
Sulphate of Atropine... ... 1 grain.

Dose.—1 to 3 minims. 3 minims contain half a grain of acetate of morphine and $\frac{1}{60}$ grain of sulphate of atropine. Some practitioners prefer to use it half this strength. Although atropine is in many respects antagonistic to morphine, yet, given in combination with it in small doses, the former increases the sedative action and counteracts the disagreeable effects of the latter on the head, stomach, and bowels. In R.O.H. 1 grain of the atropine salt is added to 6 drachms of B.P. hypodermic injection of morphine (1 in 10).

Hypodermic Lamels contain $\frac{1}{4}$ grain Morphine and $\frac{1}{6}$ grain Morphine with $\frac{1}{120}$ grain Atropine respectively, combined with gelatine.

Ophthalmic discs contain $\frac{1}{500}$ grain Morphine, and $\frac{1}{500}$ grain Morphine with $\frac{1}{5000}$ grain Atropine respectively.

Liquor Morphinæ Acetatis (*Off.*).

Dose.—10 to 60 minims. Contains 1 per cent. of acetate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted acetic acid.

Pastillus Morphinæ Acetatis.—See p. 200.

Pastillus Bismuthi Carbonatis cum Morphinæ Acetate.—See p. 200.

Morphinæ Hydrobromas.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In commerce is met with as a white amorphous powder resembling the hydrochlorate of morphine in appearance. Sometimes administered with free hydrobromic acid as a sedative, and thought not to affect the head as much as other salts of morphine when given thus.

Morphinæ Hydrochloras (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, which may be increased. In a pill it may be combined with sugar of milk and glycerine of tragacanth.

In silky white flexible acicular prisms, but usually met with in amorphous white powder, soluble 1 in 26 of water. It is stable, and the most frequently used of the salts of Morphine.

Linctus Morphinæ, U.C.H.

Solution of Hydrochlorate of Morphine	3 minims.
Spirit of Chloroform ...	3 minims.
Treacle, Honey, or Glycerine	60 grains.
Water to	1 drachm.

Mix. May be more agreeably flavoured with syrup of lemon as a vehicle.

Dose.—A teaspoonful 3 or 4 times a day; or the dose may be repeated frequently at times when cough is troublesome, till the paroxysm is subdued. It should be taken undiluted, swallowed slowly, and allowed to hang about the throat. For children of 8 to 14 years, dose 10 to 20 drops. It is not suitable for very young children, or where there is difficulty of expectoration in bronchitis.

Liquor Morphinæ Hydrochloratis (*Off.*).

Dose.—10 to 60 minims, contains 1 per cent. of hydrochlorate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted hydrochloric acid.

Suppositoria Morphinæ (*Off*).

Contain ½ grain of hydrochlorate in each. They are also usually kept, containing only ¼ grain, as well as other strengths.

Suppositoria Morphinæ cum Sapone (*Off.*).

Contain ½ grain of the hydrochlorate in each also, but are never ordered, and have a bad basis.

Trochisci Morphinæ (*Off.*)

Contain 1/36 grain of the hydrochlorate in each lozenge, with a sugar basis flavoured with tolu. They are more agreeable if made with black currant paste basis.

Trochisci Morphinæ et Emetin, see p 173

Trochisci Morphinæ et Ipecacuanhæ (*Off*).

Contain 1/36 grain of the hydrochlorate of morphine, with 1/12 grain of ipecacuanha in each. These lozenges are often given to allay cough—one 5 or 6 times a day.

Morphinæ Meconas. —Meconate of Morphine.

Dose —⅛ to ½ grain.

This is the natural salt of morphine existing in opium, and, when pure, is in white minute acicular crystals, soluble 1 in 34 of water. It is said to disturb the head less, as well as derange the stomach and bowels less, than the other salts of morphine administered either by the mouth or hypodermically.

Liquor Morphinæ Bimeconatis (*Off*).

Dose.—5 to 40 minims.

The tedious official process may be simplified as follows:—

Morphine (pure Alkaloid) ..	13½ grains.
Meconic Acid	12 grains.
Rectified Spirit	1 ounce.

Mix and add

Distilled water to	4 ounces.

A perfect solution is formed instantly. One ounce is said to contain about 5½ grains or 1¼ per cent. of bimeconate of morphine, and as regards this is about the same strength as tincture of opium. It is in reality stronger, and contains about 6½ grains in an ounce.

Morphinæ Sulphas (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In hard white silky acicular crystals, is a stable salt of morphine and the one preferred in the United States. Soluble 1 in 23 of water.

Liquor Morphinæ Sulphatis. Used in the United States.

Dose.—1 drachm or more. Contains 1 grain in an ounce of distilled water. A preparation known as Magendie's solution of morphine is also used in the United States; it is 16 times stronger than the above (containing 16 grains in the ounce). Magendie's solution in France is slightly stronger than that of the United States; it contains 1 part of acetate of morphine in 87½.

Morphinæ Tartras.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

Neutral tartrate of morphine in commerce is a white amorphous powder resembling the commercial hydrochlorate. Readily soluble in water, 1 in 10, has been recommended for hypodermic injection.

Injectio Morphinæ Tartratis Hypodermica.

Dose.—1 to 6 minims.

Tartrate of morphine	...	30 grains.
Distilled water ..	...	6 drachms.

Dissolve.

Hypodermic Lamels of Morphine Tartrate contain $\frac{1}{6}$ grain, also $\frac{1}{6}$ grain, combined with **Atropine,** $\frac{1}{100}$ grain.

References.

Antagonism of atropine, $\frac{1}{20}$ grain = 1 grain of morphine in cases of poisoning; small doses of the former should be frequently repeated hypodermically.—B.M.J. i./81,239.

Antagonism of caffeine, coffee, tea, &c., to morphine.—B.M.J. ii./74,615,674,679,771.

Opium and morphine may poison infants through the mother's milk; see a case in B.M.J. ii /85,1159.

Administration of morphine previous to anæsthesia is not without danger from respiratory paralysis.—Pr. xxxix. 103.

MUSCARINÆ NITRAS.

Muscarine Nitrate.

Dose.—(?) $\frac{1}{8}$ to $\frac{1}{4}$ grain hypodermically causes free perspiration, &c., like Pilocarpine.

Muscarine is an uncrystallizable alkaloid obtained from the fungus, fly agaric—*Agaricus* or *Amanita muscaria;* it has also been obtained, as a derivative, from brain substance. Nitrate of Muscarine, the only preparation met with in commerce, is also uncrystallizable; it is a viscid, yellowish brown liquid, hygroscopic, and soluble in water.

It resembles Pilocarpine in action and is almost completely antagonistic to atropine, one exception being that, applied topically to the eye, it dilates the pupil, like gelsemium, but given internally it contracts it. It produces salivation, perspiration, flow of tears, and purgation.—R.

Useful in checking night sweating. Ext. Muscariæ was used.—Pr. xxv.89.

Antagonistic to atropine, acts like pilocarpine.—Pr. xxvi.5.

Further, see Das Muscarin, Schmiedeberg und Koppe (Leipzig, 1869; F. C. Vogel).

Atropine is an antidote to the effects of poisonous mushrooms, $\frac{1}{120}$ grain injected hypodermically and repeated if necessary until the dyspnœa is relieved.—B.M.J. ii./74,617.

Physiological experiments—its antagonism to atropine.—Trans. Med Congress, 1881, i 508; B M J ii /82,529.

Note on its physiological action —L. i /83,336.

Poisons the heart-muscle itself, and the heart becomes arrested in diastole.—Pr. xxxix. 212.

MYRICIN.

Dose.—2 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive obtained from the bark of stem and root of bayberry, *Myrica cerifera.* Is astringent and stimulant, in large doses emetic—used in diarrhœa and jaundice.

References

On the dog is a very powerful stimulant of the liver. During the increased secretion of the bile, the percentage of the special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.—B.M.J. Rep. 1878,4; B.M.J, i./79,177.

NAPHTHOL.

β-Naphthol. *Syn.*—NAPHTHYL ALCOHOL.

A coal-tar derivative with a faint storax odour; when sublimed, is in white shining laminar crystals, soluble in alcohol, ether, chloroform, and benzol, sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline. Has the advantage in skin diseases generally of being odourless and colourless. It is a powerful antiseptic and germicide. In advanced scabies, an ointment of 10 to 15 per cent. cures the eczema as well as destroys the parasite, but the following ointment is preferred:—Naphthol 15, lard 100, green soap 50, prepared chalk 10. Useful also in psoriasis.—B.M J. ii /81,612, B.M J. i /82,47,156.

Naphthol 5, alcohol 100, glycerine 10, is a remedy for hyperidrosis of palms, soles, and axillæ.—Pr. xxxi.219.

α-Naphthol has also been recommended as a powerful antiseptic, and as possessing only one-third the poisonous action of the β-Naphthol.

Betol. *Dose.*—3 to 8 grains in cachets or pills, or suspended in almond emulsion or milk.

The salicylate of β-Naphthol-ether. Is in small tasteless and odourless, brilliant white crystals, insoluble in water, soluble in alcohol. Useful in rheumatism, cystitis, and intestinal catarrh.—Th. Gaz Nov.1887,774.

Bougies of Betol 1 part, cacao butter 4 parts, have proved useful in gonorrhœa.

Naphthalin. *Dose.*—2 to 10 grains or more in cachets or pills with mucilage and syrup.

A hydrocarbon formed in large quantities in the manufacture of coal gas. It is when pure in shining white rhomboid crystalline plates, free from strong tarry odour; it is insoluble in water, acidulated or alkaline, but is soluble in ether, hot alcohol, and in fats, fixed and volatile oils.

Naphthalin Hydrochlorate. In granular white crystals, slightly soluble in water. *Dose.*—3 to 12 grains.

As Naphthalin is not absorbed by the system it acts only on the mucous membrane of the bowels. It forms a valuable remedy in dysentery, catarrhal, typhoid, and phthisical diarrhœa.—Ed. M. J. April, 1888, 952; L. ii./87,777; 8-grain enemata useful.—L. i./88,1327.

As an antiseptic has similar uses to iodoform, but has an unpleasant smell.—Th. Gaz. Nov. 1887,775.

Is painless in action, and promotes healing of ulcers.—B.M.J. i./86,217.

Given internally with success to lessen fœtor of urine and stools.—L. ii./86,744; ii./87,605.

Peculiar ocular defects (cataract) in guinea pigs.—Th. Gaz. April, 1888, 260.

Causes catarrhal symptoms when given internally to rabbits.—B.M.J. i./87,800.

Is used in Samarcand as a vermifuge.—L. ii./86,462.

Capsules used with success for incontinence of urine.—Ed. M.J. Dec. 1887, 567; Th. Gaz. Sept. 1887, 610.

Used in antiseptic dressings with success as an alternative to iodoform.—B.M J. ii./82,1051.

A 10 to 20 per cent. solution in oil is successful as a parasiticide in scabies, but does not relieve the secondary eruptions.—L. ii./82,909.

NARCEINA.

Narceine.

Dose.—¼ to ½ or 1 grain, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium in light white, flexible silky crystals Has a slightly bitter taste—is a weak base, soluble 1 in 400 of water, very soluble in spirit, insoluble in ether. It is a soporific, produces no constipation, less headache and perspiration than morphine —R.

References.

More soporific than morphine and codeine, and the sleep more profound.—L. i /66,250.

Hypnotic use of, and to check cough of pertussis.—B.F.M. Ch.R. ii./66,526; Th.Gaz. 1888, May, 359.

Causes sleep rather than allays pain, used as a sedative in violent cough.—B.F.M. Ch.R. i./67,527.

Prosopalgia (faceache) cured by hypodermic use of.—B.F.M. Ch.R. i./72,187.

The most soporific of the opium bases, and less poisonous than thebaine, codeine, and papaverine.—B.F.M. Ch.R. i./72,509.

Is a pure but feeble narcotic, 5 grains or more are required to produce slight tendency to sleep.—Pr. i./68, 289; P.J. 1887,882.

NARCOTINA.

Narcotine.

Dose.—1 to 3 grains, or more, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium, in white inodorous crystalline prisms. It is a very weak base, insoluble in water, soluble 1 in 3 of chloroform, 1 in 100 rectified spirit, 1 in 125 ether, soluble also in benzol. Possesses antiperiodic properties, like quinine, some considering it superior, in doses of 1 to 3 grains.—R.

References.

Antiperiodic in remittent fever. 1½ to 3 grains; in doses of 10 grains, produces diaphoresis.—L. i./62,58.

In India, for ague, considered second only to quinine.—M.T.G. ii./62,203.

In 8-grain doses has no narcotic nor anæsthetic effect.—Rank. ii./72,125.

NICOTINA.

Nicotine.

Dose.—⅛ to 1 grain.

A colourless volatile liquid alkaloid, obtained from tobacco—*Nicotiana Tabacum*. Darkens with age, has a strong, disagreeable odour, soluble in water, more so in rectified spirit and ether.

References.

Tetanizes the heart, has been highly praised for tetanus. Many recorded cases appear to show its usefulness in this disease.—R.

Physiological effects.—B.F.M.Ch.Rev. i./56,243.

Is an antidote to strychnine.—Rank. ii./66,225.

NITROGLYCERINUM.

Nitroglycerine. *Syn.*—GLONOINE; TRINITRATE OF GLYCEROL; NITRIC ETHER OF GLYCERINE (formerly considered as the Trinitrite of Glycerol or Nitrous Ether of Glycerine); TRINITRINE.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain increased to $\frac{1}{10}$ grain.

This dangerous explosive substance proves to be of great medicinal use, especially in angina pectoris. It is obtained by gradually dropping pure glycerine into a mixture of sulphuric and fuming nitric acids kept cool by iced water. The Nitroglycerine is separated by pouring the mixture into a large quantity of water, and well washed by agitation with several supplies of cold water, till free from acidity. It is then collected as a dense, opaque, white, oily liquid, and carefully dried in thin layers in a warm room, when it becomes dehydrated, transparent, and colourless, and of Sp. Gr. 1·600. It drops in very small drops. It has no odour, yet is slightly volatile. has a sweet, aromatic, pungent taste, and produces headache, which, if dose be large, lasts some hours. It is slightly soluble in water, freely soluble in ether, 1 in 6 of almond oil, freely soluble in absolute alcohol. and 1 in 15 of rectified spirit. Three parts mixed with and absorbed by one part of an infusorial earth, so as to become solid, forms Dynamite, which is much used for blasting purposes. The alcoholic solution, containing 1 per cent., was first used medicinally; but, as complaints were made to the writer that it was inconvenient for patients to carry a liquid medicine about with them, as they were required to do, to ward off attacks of angina, he, having discovered that nitroglycerine was soluble in oils and fats, dissolved it in oil of theobroma and combined this with chocolat to form tablets, which he adjusted in strength to contai $\frac{1}{200}$, $\frac{1}{100}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain of Nitroglycerine in each Those containing $\frac{1}{100}$ grain are the most suitable fo general use. The fatty basis can also be made int white transparent coated pills containing doses similar t the tablets. A one per cent. oily solution is recommende as being more stable than the alcoholic solution. Nitr glycerine, especially if not perfectly pure, is liable t explode spontaneously, but in fatty or oily solution it is perfectly safe and stable.

Nitroglycerine, in two minutes after taking a dose, accelerates the pulse, relaxes the arteries, produces a feeling of fulness all over the body, but particularly in the head by a throbbing at the sides of the temples. It also causes headache, which lasts from 15 minutes to several hours, according to the quantity taken; but to patients accustomed to its use the headache is not felt. In treating angina pectoris, neuralgia, asthma, headache, sea-sickness, and Bright's disease, its action is like nitrite of amyl, but its effects last much longer. For the weak heart of fatty degeneration and of old persons, this lessened tension proves valuable.

Nitroglycerine acts more powerfully than other nitrites, probably because the whole of it is absorbed without decomposition, and because the nitrous acid is thus set free in the blood itself.—Brunton.

Injectio Nitroglycerini Hypodermica.

Dose.—1 to 4 minims.

Nitroglycerine Solution, 1 per cent. (as below)	. .	5 drachms.
Rectified Spirit	. .	2 drachms.
Distilled Water to		1¼ ounces.

Contains $\frac{1}{240}$ grain in 1 minim Acts promptly; useful in collapse, &c., when the patient cannot swallow.

Liquor Nitroglycerini, 1 per cent.

Dose.—½ to 2 minims, gradually increased to 10 minims, if necessary, every 3 or 4 hours, in any aqueous vehicle

Nitroglycerine	.. .	1 grain.
Rectified Spirit to	. .	100 minims.

Dissolve. A five and a ten per cent solution in absolute alcohol are also prepared commercially, but they are not safe for use in dispensing.

Oleum Nitroglycerini, 1 per cent.

Dose.—1 to 2 drops or more on sugar.

A one per cent. solution in almond oil.

Pilula Nitroglycerini.

Is made with the theobroma-oil basis to contain $\frac{1}{100}$ to $\frac{1}{50}$ grain or more.

Tabellæ Nitroglycerini, Nitroglycerine Tablets (*Off.*).

Syn.—Trochisci Nitroglycerini, L.H.

Introduced by the writer in 1878, now recognised as official, $\frac{1}{100}$ grain in each. The tablets have the nitroglycerine in solution in chocolate, in a perfectly safe, stable, and palatable form.

Dose.—One tablet every three or four hours to relieve or ward off attacks of angina pectoris, sea-sickness, neuralgia, Bright's disease, headache, &c. A tablet should be eaten and quickly swallowed when an attack of angina threatens; for this their use is preferable to the pills, which require a few minutes to dissolve. A dose of any preparation of nitroglycerine acts more promptly if taken on an empty stomach.

The tablets are also prepared containing $\frac{1}{75}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain, and 1 millegramme respectively, for those accustomed to their use, as well as $\frac{1}{200}$ and $\frac{1}{400}$ grain in each, for administration to ladies, delicate persons and children, for whom this is a sufficient dose to ward off sea-sickness. The tablets appear to be non-poisonous even to children; a surgeon informed the writer that on one occasion two children, one three and the other six years of age, ate between them straight away two dozen, $\frac{1}{100}$ grain in each, without any injurious effects.

They are attractive in appearance, and cannot be distinguished by the taste alone from ordinary chocolate creams.—L i./79,850.

In a case of angina pectoris in which they were prescribed the relief afforded was most marked. . . . . They are certainly active; whilst they are agreeable to the taste.—B.M.J. i /79,899

Fifty per cent. of cases of sea-sickness are benefited by the nitroglycerine tablets -B.M J. ii./80,512,691.

The tablets are the most convenient and ready method of using nitroglycerine.—B.M.J.ii./81,424.

The best method of administration is in the form of lozenges. They should be taken when the patient is threatened with an attack of asthma; or, if the attacks occur in the night, at bedtime, or whenever the patient wakes.—B.M.J. ii./81,543.

Tabellæ Nitroglycerini Compositæ, Westminster Hospital Pharm.

Contain Nitroglycerine $\frac{1}{100}$ grain, Nitrite of Amyl ¼ grain, Menthol $\frac{1}{50}$ grain, Capsicum $\frac{1}{100}$ grain.

Cases of angina pectoris treated with success in doses of one minim of 1 per cent. solution of nitroglycerine, upwards to, in one case, 10 minims every 3 or 4 hours, or as attacks required it. — L. i./79,80,115,151,225.

Reprinted as "Nitroglycerine in angina pectoris," by W. Murrell.

Two minims of 1 per cent. solution every 3 or 4 hours, or 5 minims when an attack threatened in a case of angina pectoris gave complete relief—great boon to sufferer, who had perfect confidence in being able to control attacks.—L. i./79,578.

Checks the paroxysms of angina, $\frac{1}{100}$ to $\frac{1}{50}$ grain every 4 hours. The dose may be increased up to $\frac{1}{5}$ grain.—Pr. xxii.208; Br. ii./79,xxix.

Studies on its therapeutic uses.—B.M J. i./80,406,487; M.R. 1883,87, Th. Gaz Nov. 1887,769.

Bright's disease, acute and chronic, and in vascular tension of the aged, the 1 per cent. solution in dose of 1 to 8 minims was successful.—B.M.J. ii./80,803.

Myxœdema, case of, treated successfully with $\frac{1}{50}$ grain doses of nitroglycerine in conjunction with elaterium purgings.—L. i./82,440.

Puerperal convulsions, $\frac{1}{100}$ grain every hour arrested in 4 or 5 doses. Nitroglycerine also acts as an aperient, causing free evacuation of the bowels..—B.M.J. i./82,573.

The alcoholic solution 1 per cent. relieves toothache applied on cotton wool in the cavity of a carious tooth.—Pr. xxvii.285.

In epileptic vertigo, 1 to 2 minim doses of 1 per cent. solution quite relieved. —Pr. xxx.105.

In migraine, due to anæmia, a minim of 1 per cent. solution repeated every half-hour, if desirable, useful also in epilepsy, especially in cases of *petit mal* given in conjunction with bromides. —New York Med. Jour. Dec. 1882,662.

In a case of angina pectoris, the effect of 1 per cent. solution in 1 to 3 minim doses compared with that of nitrite of sodium. —Pr. xxx.179,321.

In uræmic asthma, $\frac{1}{100}$ grain doses thrice daily, was useful.—B.M.J. i /8[illegible],811.

In chronic albuminuria, $\frac{1}{100}$ grain every 3 or 4 hours, ound useful —M.T.G. i /84,538.

On account of its stimulating effect on the heart and blood vessels, is recommended as a substitute for alcohol where brandy is indicated; dose is small and tasteless, and its action is almost immediate. Useful in collapse from chloroform, or typhoid and other fevers, shocks from accidents, and nausea and faintness from surgical operations.—L. ii./85,259.

In nephritis, it increases the amount of urine, whilst lessening the amount of albumen.—Pr. xxxiv.67; L. ii. 85,783; Th. Gaz.1888,May,355.

Asthmatic fits, found to give more relief than any other drug, even in cases of weak heart.—M.P.C. i./86,6.

Its administration relieves morphine craving.—L. i./87,1278.

Case of apparent death, women resuscitated by ten drops of hypodermic solution.—P.J. 1886,509; M.P.C. 1887,36.

In epilepsy the frequency of attacks is lessened by its use.—Th. Gaz. April, 1888,257.

Paroxysmal headaches much improved and made less frequent.—L. ii./87,1135; i./88,1195 (tablets used).

In dyspnœa is preferred to other nitrites.—Intern. Jour. Med.Sci.Oct.1887,393; Feb.1888,122.

NUX VOMICA.

Nux Vomica (*Off.*).

Dose.—1 to 5 grains in powder.

The galenical preparations of the seeds of *Strychnos Nux-vomica*, are now required to be standardised.

Extractum Nucis Vomicæ (*Off.*).

Dose.—¼ to 1 grain (but often less).

The powdered seeds are percolated with a mixture of distilled water 1, rectified spirit 4 (this mixture exhausts Nux Vomica better than rectified spirit alone), and the percolate concentrated by distillation and evaporation to an extract, which must contain 15 per cent. of total alkaloids. By dissolving 133 grains of this extract in distilled water 4 ounces and rectified spirit *q.s.* to form a pint, it forms:—

Tinctura Nucis Vomicæ.

Dose.—10 to 20 minims (or often less). One ounce contains one grain of Nux Vomica alkaloids.

Tinctura Ignatiæ. *Dose.*—3 to 20 minims.

From St. Ignatius' Beans, the seeds of *Strychnos Ignatii* (allied to Nux Vomica), 1 part, and a mixture of rectified spirit 3 and water 1, *q s.* to produce 10 parts.

Gouttes Amères de Baumé (Codex), 1 in 2. *Dose.*—1 to 8 minims.

Strychnina.—See p. 343.

OLEATA.

Oleated Preparations.

Acidum Oleicum, Oleic Acid (*Off.*).

A pale-sherry-coloured oily liquid (at ordinary temperatures) with a slight but not disagreeable odour, obtained by the saponification of olein, or by the action of superheated steam on fats, and afterwards separating by pressure the liquid oleic from the solid fatty acids. It is faintly acid to test paper, insoluble in water, but is dissolved readily by rectified spirit, ether, chloroform, benzol, and fixed oils; it dissolves most metallic oxides, thus forming indefinite oleic solutions of oleates in an excess of Oleic Acid, such combinations of bismuth, copper, lead, mercury, and zinc are used medicinally; they are soluble in oils, fats, and petroleum ointments. Those of mercury and zinc are most in request. Oleic Acid also dissolves alkaloids, but not their salts, *e.g* Oleate of Aconitine (see Aconitina, p 54), Oleate of Atropine (see Atropina, p. 82), Oleate of Morphine (see Morphina, p 251), and Oleate of Veratrine (see Veratrina, p. 368), are used medicinally. One part of Quinine (alkaloid) is dissolved by 8 of Oleic Acid forming **Oleatum Quininæ**, which is applied externally and is readily absorbed, and 8 grains (=2 grains of Quinine) added to one ounce of cod-liver oil forms Oleum Morrhuæ cum Quinina. Oleic Acid, although a derivative of oils, is much more readily absorbed by the skin than oils. It also aids the absorption of drugs with which it is combined.

Résumé of the use of the oleates and their preparation. —B.M.J. ii /84,749.

Preparations.

Oleanodyne.

A special preparation combining the alkaloids aconitine, atropine, morphine, and veratrine, with oleic acid. It is rapidly absorbed, and forms a strong anodyne liniment, which can be diluted with chloroform, rectified spirit, or oils. It is not so compatible with compound camphor or soap liniment.

Cupri Oleas.

Is best prepared by the double decomposition of a hot solution of sulphate of copper, 3 in 8 of water, added to a hot solution of Castile soap 8 in 32, washing and drying the pasty precipitate. When cold it is in solid dark-green masses It is in reality an oleo-palmitate of copper, may be employed as a plaster for warts and corns

Unguentum Cupri Oleatis.

Oleate of Copper	1 ounce
Petroleum Cerate (p 280)	4 ounces

Melt and stir till cold A softer ointment may be made by using vaseline as the basis, and for some purposes it may be employed half the above strength

Is specially useful in ringworm lightly rubbed in night and morning —for indolent ulcers, warts and corns, and is recommended for removing freckles —M R 1882,449, P J 1882 303, L i /83,250, Edin Med. Jour 1884 566

Oleatum Hydrargyri (*Off*) 10 per cent

Yellow Oxide of Mercury	1 part
Oleic Acid	9 parts.

Into the acid kept agitated in a mortar sprinkle the oxide gradually, and stir frequently during 24 hours, until the latter is all dissolved and a light brown semi-oleaginous liquid is formed

Oleatum Hydrargyri (5 per cent) **cum Morphina** (Linimentum Hydrargyri Oleatis cum Morphina, U C H , R O H , T H)

Pure morphine one grain, is dissolved in a drachm of the above

Oleatum Hydrargyri (5 per cent and 20 per cent), **U C H**

Are prepared respectively with one half and twice as much oxide as the 10 per cent and when ordered with morphine 1 grain is added to each drachm of the oleate when dispensed These preparations do not keep well with the morphine in combination The 10 per cent is always dispensed unless one of the others is specially ordered It is also the official Oleatum Hydrargyri, U S These oleates should be applied with a brush, or lightly spread over the part with the finger and covered with a linen rag or silk handkerchief otherwise, if used with much friction, they may cause some cutaneous irritation The addition of morphine is indicated where there is pain in the part, or the simple oleate itself causes much pain The case and the age of the patient will indicate which strength of oleate should be used As a rule, according to the size of the part affected, 10 to 30 drops, or a piece from the size of a bean to a nut, should be rubbed in twice a day for 4 or 5 days, then at night only, afterwards every other day till cured. The application does not salivate unless used in excessive quantity. In persistent inflammation, especially of glands, and joints (such as synovitis), and in non-ulcerated syphiloderma, the Oleates of Mercury are much more active, definite, and cleanly, than the mercurial ointment, which is dirty and uncertain.—L. i./72,709.

In syphilitic affections it is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastens the subsidence of papules and other disfigurements of exposed parts of the skin; is also a very effective parasiticide in pediculi. Pr. x.204.

Cases of ringworm, one on scalp, cured by 10 per cent. Oleate. It is a certain, painless remedy, produces no stain, and it destroys the fungus, as it readily permeates the sebaceous glands, hair follicles, and even the hairs themselves. Its penetrating power may be increased by adding one-eighth of ether — L. ii./73, 227.

Ringworm of scalp the most inveterate cases which had existed for years cured by Oleate of Mercury, 5 per cent. for under 8 years, 10 per cent. for over that age; one-seventh of acetic ether added to it, increases its penetrating power, causes little pain, very often none.— L. i./80,126.

An **Oleo-Palmitate of Mercury** may be made by the double decomposition of perchloride of mercury and Castile soap. It is an opaque, yellowish, viscid unctuous body, about twice the strength in mercury of the 20 per cent. preparation made by direct combination. It is recommended to be diluted with from 1 to 8 or more parts of an unctuous petroleum such as vaseline for use. It is not a satisfactory pharmaceutical preparation.

Emplastrum Hydrargyri Oleatis.

Lead Plaster .. .	6 ounces.

Melt and add

Oleo-Palmitate of Mercury	2 ounces.

Mix. Is a useful substitute for mercurial plaster, and for strapping up joints requiring the constant application of Oleate of Mercury.

Oleatum Plumbi.

Lead Plaster, B.P., is a crude Oleate of Lead, made by the combination of olive oil (oleate and palmitate of glyceryl) and oxide of lead heated together in the presence of water. Thus made, the oleate possesses more adhesiveness than when prepared by the oleic acid solution of the oxide.

Plumbi Stearas.

This can be prepared by adding solution of subacetate of lead 2, diluted with boiling water, to a hot solution of curd soap, 1 in 8 of distilled water, washing the pasty precipitate, drying and reducing to powder. It is a white, or almost white, powder, and may be employed as a dusting powder to allay itching of the skin, acute, and chronic eczema—is better diluted with kaolin or starch, 1 to 2 or 4 of latter powders, or a mixture of them.

The following ointment was largely prescribed by the Viennese skin physician, Hebra, as a remedy for eczema, excessive perspiration of the feet, &c. It is in reality an oleate of lead ointment.

Unguentum Diachyli (original formula).

Olive Oil	... ...	15 ounces.
Boiling water	. ...	32 ounces.

Heat, and add gradually,

Litharge in powder	. .	3¼ ounces.

Continue the heat, adding more water if necessary, and stir constantly till combined, and while cooling. When cold stir in

Oil of Lavender	.. .	2 drachms.

In cold weather an extra ounce of oil should be allowed for every pound of ointment. It should be rubbed in 1 to 3 times a day, or spread on linen and applied as a plaster.

The writer modified this as

Unguentum Plumbi Oleatis, U.C.H.

Adopted [illegible] **Unguentum Diachyli,** P G. 1882.

[illegible] Plaster	... ...	½ ounce.
[illegible] Oil (by weight)	...	½ ounce.

Melt [illegible] But, as both the above are prone to becom[illegible], he further, in 1875, modified it, when he introd[illegible] Vaseline to the medical profession, by suggesting its [illegible] as follows:—

Unguentum Diachyli, R.S.H.

Lead Plaster } of each ½ ounce
Vaseline }

Melt together and stir till cold Made thus, the ointment keeps well, and does not acquire a disagreeable odour Kaposi (son-in law of Hebra) has adopted this, when perfumed with oil of bergamot, as *Unguentum Vaselini Plumbicum* Pr xxii 124, Br i/79 lix

Oleatum Zinci (*Off*)

Oxide of Zinc	1 ounce
Oleic Acid	9 ounces

Mix and heat together till combined

Chartazinc

Tissue paper impregnated with oleate of zinc, this hastens the healing process and is a healthy stimulant to chronic ulcers especially those of long standing, and large sores left after burns —B M J ii/78 691

Unguentum Zinci Oleati (*Off*)

Oleate of Zinc } of each 1 ounce
Vaseline }

Melt together and stir till cold For some cases further dilution with vaseline is advisable This ointment, having the zinc in solution has the advantage over zinc ointment B P in most cases in which the use of this is indicated in not coating the sore, to which it is applied, with a crust of debris, which checks healing and irritates the part on removal

Chronic eczema cases often cured by above ointment —B M J ii/78,622 B M J i/79 602

Further, found useful in eczema one drop of otto of rose covers its faint smell B M J i/79 586

When required to be spread on lint or rag the following harder ointment is preferred it does not liquefy or ooze through the dressing and grease the patient's clothes, as it sticks more firmly to the dressing than to the skin, on removal, the wound or sore is left free from any adhering ointment, &c , but it is not adapted for smearing on a sore

Unguentum Zinci Oleati Durum.

Oleate of Zinc } of each 1 ounce
Petroleum Cerate (p 280) }

Melt together and stir till cold

The **Metallic Oleates** may be made by the double decomposition of a soluble metallic salt and Castille soap (as oleate of copper, p. 265). Thus made, the Oleates contain no free oleic acid, but they are more contaminated by palmitates than if prepared by direct combination of the oxide with free oleic acid. A zinc preparation of this kind is prepared as follows:—

Pulvis Zinci Oleatis.

Castille Soap	1 lb.
Boiling Water	6 pints.

Apply heat till dissolved.

Sulphate of Zinc	7 ounces.
Boiling Water	16 ounces.

Dissolve and add to above solution, stir well, separate the water from the Oleate floating on the top, and wash the latter with hot water till free from sulphate, then cool, dry, and reduce to fine powder. It resembles powdered French chalk in appearance, and is useful for dusting on eczematous surfaces and parts troubled with excessive perspiration. It may be perfumed by the addition of $\frac{1}{500}$ of thymol, and diluted with kaolin or starch. It is *the* remedy for hyperidrosis and osmidrosis. — L. i./82,974; M.R. 1882,449.

OLEUM GYNOCARDIÆ.

Chaulmoogra Oil.

Dose 2 to 15 grains, filled into empty capsules or in cod-liver oil or milk.

The oil expressed from the seeds of *Gynocardia odorata*, imported from India. It has a pale brownish colour and a disagreeable taste and smell. It is always solid and unctuous in this climate, as it contains a quantity of palmitic acid, with three other fatty acids; of these **Gynocardic Acid** is supposed to be the active ingredient of the oil. *Dose* —½ to 3 grains. The oil is applied externally, and given internally *after meals* for leprosy, phthisis, and scrofula, marasmus, psoriasis and lupus. For chronic rheumatism and rheumatic gout it forms a useful application with gentle friction. For phthisis 2 to 4 ounces should be rubbed into the chest weekly.—B.M.J. i./81,475,559; i./79,431,968; B.M.J. ii./80,844; Pr. xxi 321, xxii.241; L. ii./87,604.

In old standing eczema, with thickening of the skin, applied pure or as an ointment was useful.—Pr. xxvi.55.

Unguentum Gynocardiæ, Chaulmoogra Ointment.

Chaulmoogra Oil	1 ounce.
Petroleum Cerate	3 ounces.

Melt and stir till cold.

OLEUM MORRHUÆ.

Cod Liver Oil (*Off.*).

Emulsio Olei Morrhuæ, B.P.C.

Cod Liver Oil . .	40 ounces.
Tragacanth, in powder	200 grains.
Simple Tincture of Benzoin (1 in 10 S.V.R.)	½ ounce.
Spirit of Chloroform . .	½ ounce.
Glycerine . .	2 ounces.
Oil of Cassia .	2 drachms.
Distilled Water, a sufficient quantity.	

Place the oil in a dry Winchester quart, and pour in the tragacanth, tincture of benzoin, and spirit of chloroform previously well mixed; agitate briskly for a minute, then add all at once one pint of water and agitate as before. Lastly, add the essential oil, glycerine, and water to 4 pints. Shake vigorously for a few minutes.

Dose.—2 to 8 drachms.

Double the quantity of tragacanth gives better results, or a better emulsion may be made with an Irish moss jelly.

Hypophosphites of **Sodium** and **Calcium, of** each 1 grain, may be contained in a drachm of the above if desired.

Morrhuol. Prepared from Cod Liver Oil by treatment with 90° alcohol, decanting and distilling off the alcohol. Said to be an acrid bitter but aromatic liquid containing phosphorus, iodine, and bromine in peculiar combination.

Dose.—In capsules containing 0 20 grammes, 1 or 2, each equal to 5 grammes of the oil.

OLEUM SANTALI.

Oil of Sandalwood (*Off.*). *Syn.*—Oleum Santali Flavi, Yellow Santal Oil.

Dose.—10 to 30 minims.

The oil distilled from the wood of *Santalum album*, A yellowish liquid, with a somewhat roseate odour, and an aromatic bitterish, slightly acrid taste. Has been employed in the treatment of gonorrhœa and gleet.

It quickly checks the discharge in dose of 15 minims 3 times a day.—Pr. xxvii.440.

In 100 cases of gonorrhœa employed with satisfactory results.—Glasgow Med. Jour. April, 1865.

In 19 cases of gleet, 13 with marked benefit; in 6 it failed; but in 4 of the latter the stomach could not bear the full dose.—B M.J. ii./67,7.

Taken internally in conjunction with the use of iodoform and eucalyptus bougies, with success.—L. ii./82,215.

Capsules of Santal Oil are prepared, containing 10 minims in each, or it may be administered as an emulsion, *e.g.*

Mistura Olei Santali.

Oil of Sandalwood ...	2 drachms.
Tragacanth, in powder ...	30 grains.
Mix. Add quickly	
Water to	8 ounces.

Shake well. Aromatic water or syrup may be used.

Dose.—One ounce.

PANCREAS.

In the pancreatic juice of man four distinct digestive ferments are believed to be contained, viz.:—

a. Trypsin—changes proteids into peptones in alkaline and neutral media.

b. Curdling Ferment curdles the casein of milk.

c. Pancreatic Diastase—changes starch into sugar and dextrin.

d. Emulsive Ferment—emulsifies and partially saponifies fats.

B.M.J. ii./79,683; B.M.J. i./80,540.

For invalids, aged persons, and those suffering from weak digestion, or those prostrated by fever or exhaustion, preparations of the pancreas of the pig (an omnivorous animal) may be employed, by means of which food may be partially or wholly digested previous to administration; their nutrition is thus maintained, and the stomach has time to regain its wonted powers of digestion.

Extractum Pancreatis (Fairchild).

An American preparation, is sold in three forms:—(1) The powder put up in ¼-ounce and 1-ounce bottles; requires the addition of bicarbonate of sodium; is used for peptonising beef-tea, milk, and gruels. (2) Tablets of Extractum Pancreatis weighing 3 grains. *Dose.*—one or two, an hour or so after meals. (3) Peptonising powders in glass tubes, each containing 5 grains of Extractum Pancreatis and 15 grains of bicarbonate of sodium; are used for peptonising milk, gruel, &c.

Pancreatine.

Dose.—2 to 4 grains. Sold in bottles with a dose measure.

A desiccated preparation of the Pancreas, mixed with powdered malt. It is very hygroscopic, and if carefully prepared contains the active principles of the Pancreas.—Proc. Roy. Soc. xvi.209; B.M.J. ii./80,841.

Liquor Pancreaticus (Benger's).

Is made by treating 1 part of the pancreatic tissue of the pig with a mixture of 1 part of rectified spirit and 3 parts of water, and filtering the liquor.—Proc. Roy. Soc. xxxii.145.

This solution possesses the amylolytic or diastasic properties of converting starch into dextrin and sugar (maltose and dextrose), and the proteolytic or tryptic action of converting albumen and fibrin into peptones, and of first curdling and then peptonising milk.

Dose.—1 to 2 drachms in a little water with meals; or mixed with food, such as farinaceous gruels, bread-and-milk, or arrowroot, when cool enough to sip; or, when given to aid intestinal digestion, 1 or 2 drachms in water with a pinch of bicarbonate of sodium 2 or 3 hours after a meal. As an addition to nutritive enemata, a dessertspoonful should be added to beef tea or milk gruel just before its administration. Liquor Pancreaticus will not keep diluted and a temperature much over 140° F. destroys the ferment, which does not act in an acid medium.—B.M.J. ii./79,683,721; B M.J. i /80,539,575, 614,647,683; L. i./80,513,549,589,629,705,753,827.

Peptonised Milk.

Dilute a pint of milk with a quarter of a pint of water, and heat to a lukewarm temperature, about 140° F. (or the diluted milk may be divided into two equal portions, one of which may be heated to the boiling point and then added to the cold portion, the mixture will then be of the required temperature). Add two teaspoonfuls of Liquor Pancreaticus, with a pinch of bicarbonate of sodium. Pour the mixture into a covered jug and place in a warm situation. At the end of an hour or an hour and a half, or when not more than slightly bitter, boil the product. It can then be used like ordinary milk.

Peptonised Beef Jelly. Sold in tins.

An extract of beef containing much of the fibrin converted into peptone or partially digested by pancreatic trypsin. May be taken by teaspoonfuls as a restorative, or added to soups, &c.—Trans. Med. Congress, 1881, i. 517.

A **Saline** and a **Neutral Essence of Pancreatine** are prepared by Savory & Moore. *Dose* of each, 1 to 2 drachms diluted. The Neutral Essence has properties like Liquor Pancreaticus, and the Saline Essence is prepared with common salt. –B M J. i /80,438,473,512.

Pancreatic Emulsion.

Prepared by mixing and pounding the pancreas of the pig with lard and water, straining, and exhausting the strained substance with ether. The ether forms a solution of pancreatised fat From this the ether is distilled, and the fat mixed with a mixture of rectified spirit and water (1 to 3) and emulsified by agitation. Oil of cloves is added to flavour and preserve it —Proc. Roy. Soc. xvi.209; L ii /64,288; L. i /65,620, L ii /65,534,562; L. ii./66,542.

Dose.—1 to 3 drachms, in a little milk or water, with a little spirit added, if liked, once or twice a day 1 or 2 hours after a meal. Given in consumption and other wasting diseases attended with loss of power to digest and assimilate food, especially where fats and cod-liver oil do not agree with the stomach.

Although the fat is first pancreatised and *then* emulsified, much of the value of the above preparation is due to its containing an animal fat, rich in stearine, in a suitable condition to be readily assimilated. The writer has succeeded in preparing an emulsion of lard, for hospital purposes, by the following formula:—

Emulsio Adipis, Fat Emulsion.

Prepared Lard	15 ounces.
Boiling Distilled Water ...	30 ounces.
Tragacanth, in powder ...	300 grains.
Essential Oil of Almonds . .	15 minims.

Melt the lard add the tragacanth, and mix. Then pour in the boiling water, and stir with a whisk till nearly cold, add the oil of almonds, mix well, and put into well-corked wide-mouth bottles.

Dose.—1 to 3 drachms, mixed with milk and a little rum added, if liked, once or twice a day after a meal, or early in the morning before breakfast.

Pancreatised Farinaceous Food (Benger's).—Wheat flour, partially dextrinised by dry cooking, is impregnated with an extract of pancreas; is suitable for infants and invalids; when mixed with milk or milk and water, artificial digestion of the food and milk takes place, which can be checked at any point by boiling.—Trans. Med. Congress, 1881, i.517; L. i./82,489.

Pulvis Pancreaticus Alkalinus (Benger).

Twenty grains in each. Consists of pancreatic enzymes mixed with bicarbonate of sodium, one being sufficient to peptonise a pint of milk in from 10 to 30 minutes, according to the amount of predigestion required.—B.M.J. ii./85,191.

Milk, Artificial Human (Hofmann). Add to ⅔ pint new milk, the cream removed from another ⅓ pint after standing 12 hours. Curdle this ⅓ pint of skimmed milk with a square inch of rennet by contact for five to fifteen minutes. Break up the curd frequently, and separate the whey, which heat to boiling point, removing the casein which is thus separated. Dissolve 110 grains Sugar of Milk in the hot whey, and mix it with the ⅔ pint milk containing the cream of the other ⅓ pint.

The artificial milk should be used within 12 hours of its preparation, and the same piece of rennet will serve for weeks.

PAPAIN.

Syn.—Papayotin. (But this term is sometimes applied to the crude powder produced by drying the juice, otherwise known in commerce as dried Papaw Milk. Dose of this, 3 to 10 grains.)

Dose of Papain.—1 to 8 grains suspended in water.

A white or whitish, amorphous, slightly granular powder, prepared from the juice of the papaw, *Carica papaya*. It has the property of digesting fibrin like pepsin, and its action is not checked by carbolic acid.—Trans. Med. Congress 1881, i 513. P.J. 1880,250,850. Is a vermifuge; report on its digestive power.—P.J. 1885,45.

Elixir Papain.—*Dose* —1 drachm with meals.

Trochisci Papain ($\frac{1}{2}$ gr.)—With meals for dyspepsia.

Trochisci Papain ($\frac{1}{4}$ gr.) **et Cocainæ** ($\frac{1}{10}$ gr.)

These, if slowly sucked, are useful for patches on tongue, &c.

To remove warts, in chronic eczema and hypertrophied condition of the skin of the palms of the hands, a solution of Papayotin 12 grains, Borax 5 grains, water 2 drachms, painted on twice a day was found curative. Recommended also as a solvent of the false membrane in diphtheria.—B.M.J. i./82, 738,845.

Will peptonise 200 times its own weight of pressed fresh blood fibrine.—M.R. 1882,454.

Comparison between papain and pepsin as digestive ferments; acts best in alkaline solutions.—L. ii./87,164.

Ulcers and fissures of tongue painted with a solution of Papain 1 to 2 in 10 each of glycerine and water recommended.—Monatsh fur prakt Derm. Vol.vi.No.7; L. ii./87,604; Th. Gaz Oct. 1887,717.

Method of papainizing milk, 7 grains digest a pint in an hour and a half.—B.M.J. ii./85,125.

PAPAVERINA.

Papaverine.

Dose.—$\frac{1}{12}$ to $\frac{1}{4}$ of a grain.

An alkaloid from opium, does not readily form salts with acids, is in colourless acicular crystals, insoluble in water, sparingly soluble in spirit, soluble in ether.

Said to be a strong narcotic, without producing previous excitement or being followed by headache or giddiness. It contracts the pupil, when it causes sleep and reduces the frequency of the pulse from 20 to 30 beats.—R.

PARAFFINUM DURUM.

Hard Paraffin (*Off.*). *Syn.*—PARAFFIN; PARAFFIN WAX; SOLID PARAFFIN.

A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation of the liquid oils by refrigeration, and purification of the solid product. Is colourless, semi-transparent, crystalline, inodorous, and tasteless, slightly greasy to the touch. Sp. Gr. 0·82 to 0·94. Insoluble in water, slightly soluble in absolute alcohol, freely soluble in ether. It melts at 110° to 145° and burns, but not without a wick, with a bright flame, leaving no residue. The range of melting point of this and the soft paraffin is too wide; melted together, they do not produce a uniform basis for ointments.

Ceresin. A hard white paraffin prepared from ozokerit, or earth wax; has melting point about 155° F. When artificially coloured to resemble yellow wax it is sold as **Yellow Ceresin.**

PARAFFINUM MOLLE.

Soft Paraffin (*Off*). *Syn.*—PETROLATUM; UNGUENTUM PARAFFINUM.

A semi-solid mixture containing some of the softer or more fluid members of the paraffin series of hydrocarbons. Melts at 95° to 105° F., is usually obtained by purifying the less volatile portions of petroleum. It is known in commerce by various fanciful names, of which

Vaseline, Vaselinum, — (as termed in earlier editions of this work) **Gelatum Petroleum,** Petroleum Jelly, is most in demand.

This Petroleum product, of semi-solid, unctuous consistence, translucent, and pale opal yellow in colour, is the oleaginous residue obtained by distilling off the lighter burning oils from certain varieties of crude petroleum; it is purified from volatile products by gently simmering and filtering through animal charcoal; if repeatedly filtered through this, it becomes opal-white in appearance, and is then known as

Vaselinum Album, White Vaseline.

This is most suitable for toilet purposes.

Since first imported, about twelve years ago, there have been several imitations of Vaseline produced; but it is still purer, freer from odour, is less crystalline and granular, and has less tendency to separate than any of its competitors. Among the latter, which the official description includes, are—

Adepsine, Yellow and White; melt completely about 120° F.; White Adepsine is of the consistence of, and resembles, lard in appearance; it is one of the best petroleum substitutes for it.

Chrisma, **Cosmoline** (Unguentum Petrolei), **Fossiline**, **Ozokerine**, **Geoline**, and **Salvo Petrolia** are also in the market as imitations of Vaseline.

Vaseline is bland, inodorous, and tasteless, unirritating to the skin, mucous membrane, and wounds or sores in any condition. It has the advantage over lard and other fats, in that it is unchangeable—cannot oxidise or become rancid, and thus set up irritation. It cannot be saponified; caustic alkalies have no action on it Yet Vaseline and ointments made of it can easily be washed off with soap and water.

Vaseline is insoluble in water, only slightly and partially soluble in alcohol, freely soluble in ether and chloroform. When melted, it combines with oils, melted fats, and paraffin wax, oleates, and oleic acid. It readily dissolves thymol, menthol, and salicylic acid; less so chrysophanic acid, and carbolic acid about 1 in 20; the alkaloids dissolve in it in about the following proportions:—atropine, 1 in 30; morphine, 1 in 200; quinine, 1 in 80; and veratrine, 1 in 80. The oleic acid solutions of these alkaloids dissolve in it in all proportions.

Lard, plain or benzoated, spermaceti ointment, and simple ointment are the four bases suggested for extemporaneous medication by the Pharmacopœia. Lard, the most used and cheapest, has for some purposes, in the summer, too low a melting point; spermaceti ointment is variable and costly; and simple ointment crumbles in winter. Being from animal and vegetable sources, these are all prone to become rancid.

Since Vaseline was introduced to the medical profession and the public in this country by the writer, this and the other inodorous forms of petroleum containing more or less paraffin wax have, in great measure, replaced the before-mentioned preparations as bases for external medication. Still, both classes of bases have their special uses. Where absorption of the medicament by the skin or tissues is required, lard or some animal fat is best adapted for the purpose, *e.g.*, for mercurial inunction, applying iodine, iodide of potassium, or other iodides, to reduce glandular enlargements, and for using aconitine, veratrine, or morphine in neuralgia, or relieving pain generally. Lard is often a solvent for these medicaments, or by the intervention of oleic acid, chloroform, or spirit, they may be dissolved in lard, and thus be readily absorbed. Vaseline and its allies are often solvents also; but these petroleum bases are not readily, if at all, absorbed by the skin or tissues. After slightly smearing the hands or other parts of the body with Vaseline, they remain moist for eight hours or more. In this way, Vaseline is an excellent lubricant for the skin,--protects it from exposure, [illegible] prevents the drying, hardening, scaling, or cracking [illegible] parts likely to do so. By thus protecting and keeping [illegible] parts moist, it is very useful in many skin diseases, [illegible] for applying to the eruption of scarlet fever or measles, burns, scalds, and chapped and sunburnt skin; prevents the formation of hard crusts, and is a good basis for many medicaments of which it is a solvent. As [illegible] melts about 95° F., it readily liquefies on whatever part of the body it is applied, and brings the affected part directly and completely in contact with the medicament held in solution; also, as it can be painted on in a thin streak, it is admirably adapted as a basis for applying medicaments, either in solution or suspension, to the eyelids, as well as to the conjunctiva and nasal passages. It is likewise well adapted for drugs which turn lard and other fats quickly rancid, such as preparations of lead, mercury, zinc, and iodide of sulphur. Still, where Vaseline, either by itself or as the basis of a medicament which does not dissolve in it, is required to be applied as [illegible] ointment spread on lint or rag, it melts so readily that it becomes absorbed by the dressing, spreads to the surrounding parts, and leaves the medicament dry on the sore. To obviate this, a firmer basis, and one requiring a higher temperature for complete liquefaction is necessary.

In the case of lard, which melts at 110° to 115° F., we have a mixture of the proximate principles stearine and oleine; stearine when pure is solid and brittle, and oleine when pure is liquid; in lard the stearine has crystallized out of solution in the oleine, and the two mix to form a plastic, solid fat, which does not completely liquefy when applied to the surface of the body.

Similarly we require a basis of mixed inodorous solid and liquid paraffins blended by the former having crystallized out of the latter and formed a similar compound to lard. In Vaseline this blending is done by nature, the crystallization is invisible to the naked eye. it is translucent and apparently homogeneous, but its melting point is too low. The writer finds the solid paraffins with higher melting points crystallize in more minute crystals and blend better with Vaseline than those which melt at a lower temperature He finds the following makes useful hard bases for ointments:—

Ceratum Petrolei.

Vaseline	2 parts.
Paraffin (135° to 140°) ...	1 part.

Melt and stir till cold. It should be stirred with a palette knife in a large enamelled evaporating dish, and be frequently stirred from the sides. Its tendency to form lumps is thus avoided. For complete liquefaction, this requires a temperature of about 125° F. It does not, therefore, completely liquefy on the surface of the body and is suitable as a basis for ointments to be applied spread on lint or rag, to which it adheres more firmly than to the skin, so that on removal the wound or sore is left clean and free from any adhering ointment, &c. The British Pharmacopœia has adopted this basis, but, as the paraffins ordered are very indefinite, the product varies. It orders

Soft Paraffin	2 parts.
Hard Paraffin	1 part.

Or in some the proportions of hard to soft paraffin is 1 to 3; in Unguentum Eucalypti equal parts are used. The authorities have also adopted the formulæ of the writer, with slight modifications in some cases, by employing it to make the following official ointments:—Unguentum Acidi Borici (p. 22), Unguentum Acidi Carbolici (p. 29), Unguentum Acidi Salicylici (p. 46), Unguentum Eucalypti (p. 180), and Unguentum Glycerini Plumbi Subacetatis (p. 199); it forms a new basis likewise for the following official ointments:—Unguentum Hydrargyri Oxidi Rubri, Unguentum Potassæ Sulphuratæ, Unguentum Sulphuris Iodidi, and Unguentum Veratrinæ. As this basis is scarcely at all absorbed by the skin, its use in the last ointment, the writer thinks, is a mistake; to derive benefit from this ointment it should be readily absorbed. Impregnated with any solid medicament, and placed into a wound or on a sore, Ceratum Petrolei slowly allows the former to come constantly in contact with the serous or other discharge, and thus chocks any putrefaction. A little rubbed on the skin of the face or hands protects the parts more effectually than simple vascline.

Oleum Deelinæ.

Is a purified petroleum oil, free from odour and taste. Its uses in forty cases of skin diseases.—Pr. xxxiv.401.

Petrolatum, **Petroleum Ointment**, U.S.

One having a melting point of 104° F. and another 125° F., are official.

Unguentum Petrolei, **Petroleum Ointment**, L.II.

Yellow Wax	.. ...	30 grains.
Vascline	.. ..	1 ounce.

Melt and stir until cold.

Cremor Zinci.

Oxide of Zinc	... ..	80 grains.
Vascline	. . ...	1 ounce.
Perfume	. .. ..	*q s.*

Mix. Is much superior to violet powder for nursery use.

Paraldehyde.—See Aldehyde, p. 63.

PELLETIERINA.
Pelletierine.

Dose.—3 to 6 grains.

An alkaloid obtained from Pomegranate Root Bark, *Punica Granatum*, in minute shining white crystals.

Pelletierinæ Sulphas. *Dose* — 5 to 8 grains.

A brown viscid, syrupy liquid, freely soluble in water. 5 grains subcutaneously injected is recommended for paralysis, vertigo, Menière's disease, tetanus, and hydrophobia, but mostly used as a remedy for tapeworm; 5 to 8 grains taken fasting, followed by a full dose of compound tincture of jalap, in nine cases out of ten the head is passed; for 13 years, half the above dose, and for infants one-tenth.—L.i./86,127.

The Sulphate of Pseudo-Pelletierine, in small white acicular crystals, is not used medicinally.

Pelletierinæ Hydrobromas.

Dose.—5 to 8 grains. A brownish viscid liquid. Used in case of paralysis of muscles of the eye with good results.—P.J. 1886,1006.

Pelletierinæ Tannas, Pelletierine **Tannate.**

Dose.—8 grains.

A greyish white amorphous powder insoluble in water. In tapeworm is an efficient remedy. As a tæniafuge, 8 grains followed in 2 hours by an ounce of castor oil proved an effectual dose, causing neither colic nor headache.—Pr. xxiv.134 ; Pr. xxviii.368.

Galezowski reports that the internal use is apt to cause diplopia.—B.M.J. ii./85,1037.

PEPSIN.

Pepsin (*Off.*).

The gastric juice of man is believed to contain two distinct digestive ferments —

a. Pepsin. This changes proteids (fibrin, albumen, &c.) into peptones in an acid medium. To this the medicinal pepsins principally owe their activity

b. Curdling ferment, which curdles the casein of milk; this is very active in the stomach of the calf, even when dried: it is contained in the preparations of rennet preserved with common salt, known as essence of rennet.- B M J. ii./79,683 ; B.M J i /80,540

The medicinal preparations of pepsin rarely possess the latter property in an active condition, and their proteolytic or peptonising power is only exerted in an acid mixture.

Pepsin of the pharmacopœia is a light brown yellowish digestive powder, prepared by drying under 100° F. the fresh mucous lining of the stomach of the pig, sheep, or calf -It has a faint, not disagreeable, odour, is little soluble in water or spirit; rubbed with water, it makes a glairy mixture.

Test.—2 grains, with an ounce of distilled water to which 5 minims of hydrochloric acid have been added, form a mixture in which 100 grains of hard-boiled white of egg, passed through a 36 brass sieve, will dissolve on their being mixed, digested, and well stirred together for about 30 minutes at a temperature of 130° F. That prepared from the stomach of the pig is preferred, and known as Pepsina Porci (Beale's).

Dose.—2 to 5 grains, either with or immediately before or after meals, in a pill with glycerine, or wrapped in wet wafer paper, or sprinked between slices of bread and butter. It is not unpalatable sprinkled on meat like pepper.

Pepsina Amylacea, Pepsine Acide Amylacée ou Poudre nutritive of the French.

Dose.—5 to 15 grains. Is prepared with the addition of starch and slightly acidulated with hydrochloric acid.

Pepsina Saccharata.

Dose.—5 to 15 grains. Has sugar of milk added to the mucous substance to assist in its desiccation; it is preferred in the United States.

Glycerinum Pepsinæ Acidum (Bullock's).

Dose – 1 to 2 drachms in water.

Glycerine is a powerful solvent and preservative of the active principles of the gastric juice. The above preparation is a very active solution slightly acidulated with hydrochloric acid.—Pr xxiv.192.

In diphtheria, used as a solvent for membrane.—L. ii./81,700.

Lactopeptine.

Dose.—10 to 15 grains, after meals.

A special American preparation, recommended for indigestion, said to be composed of Sugar of Milk 320 parts, Pepsin 64, Pancreatine 48, Diastase 4, and Lactic and Hydrochloric Acids, of each 5 fluid parts.

Experiments, showing its power of digesting coagulated egg-albumen was very weak.— Pr. xxiv.192.

Liquor Pepticus (Benger's).

Dose.— 1 to 2 drachms in a wineglassful of water with meals.- B.M.J. ii./80,683.

An active solution of the gastric ferments in weak alcohol.

Pepsin-Essenz (Liebreich's).

Dose.—1 to 2 drachms in water after meals.

This preparation contains principally the curdling ferment in diluted glycerine solution; it is weak in proteolytic power. —Pr. xxiv.192.

Peptone.

A whitish or pale-brown powder, prepared from meat (the proteids and albuminoids); peptonised either by acidulation and heat under pressure, or by artificial digestion with pepsin or trypsin, and freed from saline matter. It is soluble in water, and is used to add to jelly for germ-cultivation, and as a test for bile products in urine.

Peptonised Beef.

A chocolate-coloured paste, having a bitter taste and the odour of extract of beef; prepared by artificially digesting beef by means of acidified fresh gastric juice and concentrating the solution. It is sometimes added to beef tea, but is too unpleasantly bitter to be readily taken by patients. It forms a useful nutritive enema.

Peptonised Beef Suppositories.

Contain about 50 grains of the last preparation in each, with the addition of isinglass. As much as 2 ounces of proteids can be administered daily by this means.—B.M.J. i./81,271; B M.J. i /82,421,459.

Peptonised Bismuth.—See p. 92.

Peptonised Iron, Solution of.—See p. 190.

Peptonoids of Beef (Gerrard).

Lean Beef, finely minced, 8 ounces, Pepsin 60 grains. Mix and add Diluted Hydrochloric Acid 2 drachms, Water 1 pint. Digest for 3 hours at 130° F.; neutralize with Bicarbonate of Sodium, and strain.

Pepsin Tablets. *Dose.*—1 or 2 with meals.

These have 3 grains of pepsin in each in combination with chocolate, they are portable and palatable. Also

Pepsin and Bismuth Tablets. *Dose* 1 or 2.

Have 3 grs. subnitrate of bismuth added to the above.

Vinum Pepsinæ (Morson's).

Dose. -1 to 2 drachms, with meals.

A solution of the gastric ferments in light Spanish wine.

Phenacetin. See p. 133.

Phenol.—See Acidum Carbolicum, p. 25.

PHOSPHORUS.

Phosphorus (*Off.*).

Dose.—$\frac{1}{200}$ to $\frac{1}{30}$ grain, carefully increased.

This transparent, colourless metalloid, brittle at low, soft and flexible at common temperatures, melts at 110°, ignites in the air at a slightly greater heat, and forms dense white fumes of phosphoric anhydride. At low temperatures it emits white vapours of phosphorous anhydride. It is insoluble in water, soluble 1 in 320 of absolute alcohol, about 1 in 150 (=1 in 205 by measure) of absolute ether, 1 in 100 of chloroform, 1 in 100 of Dutch liquid (this takes up much more if warmed), about 1 in 100 respectively of almond, olive, castor, and theobroma oils, suet, and most fixed oils and fats; soluble in melted resins (? not unchanged in some); freely soluble in bisulphide of carbon; soluble also in, or rather combines chemically with, oils of turpentine and peppermint, forming non-luminous and comparatively non-poisonous liquids. These, as well as other essential oils, are incompatible with Phosphorus. French Oil of Turpentine is considered its best antidote—30 minims every half-hour.—B.M.J. ii./86.474

Uncombined Phosphorus is a violent poison, and is a much more energetic medicine than an equivalent quantity of any of its chemical compounds. To obtain its full medicinal and certain action, and ensure its complete absorption, it should be administered in solution—either in oil or fat is most reliable. But its solutions, if liquid, are unpleasant to take and cause disagreeable eructations. Many are unstable, as on exposure to the air they rapidly oxidise and form almost inert compounds. It is a difficult pharmaceutical problem to present it in an active and palatable condition. The French perles or globules of phosphorated oil are stable and active, only the dose contained in them is overstated. Solutions of Phosphorus in oil of theobroma or suet make active pills, if these are coated with sandarach solution, and not kept too long. But the tendency now is to prescribe all the tonics of the pharmacopœia in conjunction with it and expect them to combine and form one small stable and active pill. All the preparations of Phosphorus require skill and care, else much of the Phosphorus is spent or oxidised during manipulation. In making it into pills, this may be partially checked by dropping a minim or two of chloroform into the mortar, the vapour of which checks the luminosity of Phosphorus.

Phosphorus is a nervine tonic and stimulant—given for nervous prostration, paralysis agitans, locomotor ataxy and impotence It is most useful in neuralgia—especially in aged persons, in leucocythæmia, and in some skin diseases. In psoriasis, chronic eczema, and lichen, it acts somewhat like its chemical ally, arsenic

Amorphous or **Red Phosphorus.**

Dose—(?) 1 grain

An allotropic variety of Phosphorus, obtained by prolonged heating at a temperature of 464° F. without access of air It is a red powder, insoluble in the simple solvents that dissolve ordinary Phosphorus It might be administered in a pill, first triturated with sugar of milk and massed with glycerine of tragacanth, but it is unsafe, and not used medicinally. If perfectly free from white Phosphorus, which constitutes its danger, it appears to be physiologically and therapeutically inert Half drachm doses were taken 3 times a day for 40 days without apparent effect —P.J 1875,41

Preparations

N B —All preparations of Phosphorus require to be kept from the light and in a cool place

Alcoholic Solutions of **Phosphorus** have been employed medicinally but, as it requires 320 parts of cold and 180 of boiling absolute alcohol to dissolve it, and even in this quantity solution is difficult, and as on addition to water the Phosphorus is all precipitated, such solutions are unsatisfactory, uncertain, and give deceptive results Pr xi 19, P J 1873,452

Æther Phosphoratus, Teinture Etherée de Phosphore (Codex, 1839)

Phosphorus in small pieces	4 parts
Pure Ether, Sp Gr 720 (by weight)	200 parts

Macerate with frequent shaking in a dark place for a month and decant About one third of the phosphorus only is dissolved, it contains 1 in 150 (or 205 by measure) *Dose*—1 to 10 minims

In neuralgia, 5 minim doses effected a cure, taken on the advent of an attack and repeated as required —L. ii /72,690.

In neuralgia, 1 minim doses useful —B M.J ii /78,976; B.M.J. i /79,176

Elixir Phosphori.

Compound Tincture of Phosphorus (see p. 289) .. 1 drachm.

Add to

Glycerine ... ... 4 drachms.

And shake well.

Dose.—15 minims to 1 drachm in water. Contains $\frac{1}{50}$ grain in one drachm. As a fluid form of Phosphorus this is stable, palatable, and is well borne by the stomach.

Oleum Phosphoratum (*Off.*).

Dose.—1 to 10 (!) minims, on sugar or in perles. Contains about 1 per cent. of Phosphorus in prepared almond oil; it is about as saturated as the corresponding preparation in the Paris Codex is, in which 1 in 50 is ordered, but only 1 per cent is dissolved. It is phosphorescent in the dark. Diluted with twice its bulk of almond oil, so as to make it 1 in 300, it forms a liniment or eye-drops, which has been used in Paris for the cure of cataract without operation 3 to 5 instillations are used per diem.

Perles of Phosphorated Oil.

These are imported from France of two strengths represented as equal to $\frac{1}{3}$ and $\frac{1}{64}$ grain in each, but the dose is over-stated, as the writer, on exhausting with ether a number of those said to contain $\frac{1}{32}$ grain, found that, supposing the oil they contained to be saturated, each perle could only contain $\frac{1}{80}$ grain Phosphorus.

Phosphorated Cod Liver Oil.

Dose—1 to 4 drachms.

Is prepared by adding 160 minims of Phosphorated Oil, B.P to 1 pint of cod liver oil It contains $\frac{1}{100}$ grain in one drachm. It is a very unstable and unpalatable preparation P J 1877,694,712,748

Pilula Phosphori (*Off*)

Dose.—2 to 4 grains

This is a mixture of phosphorus 3, balsam of tolu 120, yellow wax 57, and curd soap 90, and contains phosphorus 1 in 90 of the mass—P.J. 1874,902. The soap is added when dispensed; the other mixed ingredients are to be kept under water in a bottle. The writer has been in the habit of preparing phosphorus pills with the oil of theobroma solution of phosphorus devised by him, as follows:—P.J. 1870,414; L. ii./76,785; B.M.J. ii /76,641.

Pilula Phosphori (Martindale).

Dose.—1 to 3 grains.

Phosphorus	12 grains.
Oil of Theobroma ...	*q s.*

Heat the oil to 300° F. and sustain the heat for 5 minutes. Strain and weigh 1200 grains into a wide-necked bottle with an indiarubber cork, and when cooled to 130° F add the Phosphorus, cork and shake well till the fat begins to solidify In rolling it into pills, divide into suitable lots, and beat each in a mortar to render it plastic before applying it to the machine, then work off quickly and cover with sandarach solution The mass contains 1 per cent of Phosphorus in perfect solution. It should be kept from the light.

When Phosphorus is to be combined with other ingredients in a pill, a more concentrated fatty basis is to be preferred The following will contain about 10 per cent. of Phosphorus —

Phosphorated Suet, 10 per cent.

Phosphorus . .	10 grains.
Bisulphide of Carbon . .	50 minims.
Dissolve and add	
Prepared Suet . . .	90 grains.

Add a little of the suet at first, mix quickly, add the remainder, mix thoroughly and allow the bisulphide to evaporate This basis may be used to make the following pills, the formulæ of which are much advertised.

Dose of each, one directly after meals.

Pilula Phosphori ($\frac{1}{50}$ gr) **cum Ferro** (3 grs.).

Phosphorated Suet .	10 grains
Reduced Iron	150 grains.
Compound Tragacanth Powder .	10 grains.
Chloroform	15 minims.
Mix, and add quickly	
Mucilage of Acacia *q s*	

Mix, and divide into 50 pills Cover with sandarach solution. The chloroform prevents phosphorescence and oxidation.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.) **et Nuce Vomica** ($\frac{1}{3}$ gr.).

Make as last, adding $\frac{1}{3}$ grain Extract of Nux Vomica to each.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** (1 gr.).

Phosphorated Suet	10 grains.
Quinine, pure (= 50 grs. Sulphate)	38 grains.
Chloroform...	20 minims.

Mix quickly, and add

Compound Tragacanth Powder	10 grains.
Mucilage of Acacia... ...	*q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.) **et Ferro** (3 gr.).

Make as last, using half the quantity of quinine there ordered, and adding 3 grains Reduced Iron to each pill.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.), **Ferro** (3 grs.), **et Strychnina** ($\frac{1}{40}$ gr.).

Prepare as the former pills, adding the proportionate quantity of strychnine.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Strychnina** ($\frac{1}{40}$ gr.).

Prepare as Pilula Phosphori cum Quinina, with Strychnine 1¼ grains *vice* Quinine 38 grains.

Tinctura Phosphori Composita.

Dose.—3 to 12 drops on sugar.

Phosphorus	3 grains.
Chloroform...	5 drachms.

Warm gently in a stoppered bottle till dissolved, and add the solution to

Absolute Alcohol	25 drachms.

Shake well and keep in the dark. Contains 1 in 600.

Zinci Phosphidum, Phosphide of Zinc, **U.S.**

Dose.—$\frac{1}{20}$ to $\frac{1}{3}$ grain.

A steel grey crystalline powder, of which about one-fourth of its weight is Phosphorus, but it has only about one-eighth the medicinal activity of the latter. It has been used in medicine as a form of administering Phosphorus. It is stable, not oxidised by trituration, and can readily be formed into pills by levigation with sugar of milk and glycerine of tragacanth.

Pilula Zinci Phosphidi.

One-sixth of a grain in each, prepared as above.

References to Phosphorus.

Relieves epileptiform vertigo, nervous break-down, anæmia, and neuralgia.—Pr. x.230.

For neuralgia, tic douloureux and hemicrania, frequent doses of $\frac{1}{20}$ to $\frac{1}{30}$ grain useful.—M.T.G. i./73,412.

Use in angina, essential or pernicious anæmia, and leucocythæmia.—Pr. xix.16.

Psoriasis, rapid cure by.—L. ii /76,877.

Use in leucocythæmia, debates and notes on.—L. ii./76,786,799,858,868

Letters on pharmaceutical preparations of, recommending pills with oil of theobroma.—L ii./76,705, B.M.J. ii./76,641; B M.J. i /79,103,257,378,614.

Poisoning by phosphorus rat poison with recovery, treated with milk, solution of morphine and opium, and an enema of castor oil and opium —L. i /80,644

Phosphorus useful as a preventive of congenital malformation.—B M.J. ii /80,802.

Two cases of lymphadenoma, showing the hæmatinic influence of Phosphorus In one, during 5 months' treatment, the red blood corpuscles increased from 52 to 76 per cent.; in the other, from 62 to 80 per cent. in 31 days.—Pr. xxi.1.

In toxic doses given to fowls, Phosphorus causes an extreme diminution of the red blood corpuscles, which in one case fell to one-sixth of the original number, with a great decrease of metabolism L. i /81,887.

Tubercular meningitis, valuable in the treatment of.—Pr. xxviii.438.

The **Hypophosphites** of **Ammonium, Calcium, Iron, Potassium,** and **Sodium,** being salts which have their Phosphorus in weak chemical combination, are considered as possessing somewhat similar therapeutic properties to Phosphorus. They, like Phosphorus itself, can all be readily ignited when brought in contact with a naked flame. These salts have been much used as nervine tonics, and are specially serviceable in the incipient stages of phthisis, where there is little tendency to hæmorrhage

—the lime-salt is particularly useful in checking night-sweats. They are also valuable in the treatment of acne.

Ammonii Hypophosphis.

Dose.—1 to 6 grains.

In white deliquescent tabular crystals, soluble 1 in 2 of water. It has a nauseous saline taste.

Calcii Hypophosphis (*Off.*)

Dose.—1 to 6 (or 10, B.P.) grains.

A white crystalline salt, with a pearly lustre and a bitter, nauseous taste, soluble 1 in 7 of water. It is prepared by heating phosphorus with milk of lime until phosphoretted hydrogen ceases to be given off, then filtering and evaporating to crystallize. The other salts are generally prepared from this by the double decomposition of the carbonates or sulphates of their bases.

Syrupus Calcii, Manganesii et Potassii Hypophosphitum, B.P.C.

Hypophosphite of Calcium, 2 grains; Hypophosphites of Manganese and Potassium, of each 1 grain; Boiling Distilled Water, 12 minims, dissolve, and add Syrup, to 1 drachm. Filter or decant

Dose.—½ to 1 drachm

Ferri Hypophosphis.

Syn.—FERROUS HYPOPHOSPHITE.

Dose.—1 to 5 grains in a pill with syrup.

In commerce is a whitish amorphous powder with a chalybeate taste, soluble almost entirely 1 in 8 of water.

Liquor Ferri Hypophosphitis Compositus, B.P.C.*

Hypophosphite of Calcium	320 grains.
Hypophosphite of Sodium	320 grains.
Hypophosphite of Magnesium	160 grains.
Sulphate of Iron .	240 grains.
Carbonate of Sodium	320 grains.
Hypophosphorous Acid, Sp Gr. 1 136	1 ounce.
Distilled Water, a sufficient quantity	

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* The writer has suggested that this, and the other compounds containing Hypophosphite of Iron, are better made from a—

Liquor Ferri Hypophosphitis Fortis, containing 5 grains in 1 drachm, prepared as a stock solution, and stored in well-stoppered bottles quite full.

Liquor Hypophosphitum Compositus.—Hypo-

Dissolve separately the sulphate of iron and carbonate of sodium, mix the solutions, wash the precipitate with sweetened water, and transfer it to a solution of the hypophosphites in 8 ounces of water; add the acid, and make up to 1 pint with water.

Each drachm contains about 2 grains each of hypophosphite of sodium and calcium, 1 grain of hypophosphite of magnesium, and 1½ grains of hypophosphite of iron.

Dose.—½ to 2 drachms.

Forms a much more useful "chemical food" for children than Parrish's preparation. Best administered in raisin wine, or for adults in Carlowitz.—B.M.J. i./80,472.

Syrupus Ferri Hypophosphitis, B.P.C.

Sulphate of Iron	232 grains.
Distilled Water (cold)	2 ounces.

Dissolve.

Hypophosphite of Calcium ..	160 grains.
Hypophosphorous Acid, Sp Gr. 1·136	2 drachms.
Distilled Water (cold)	4 ounces.

Dissolve. Mix the two solutions in a closed bottle, and after standing one hour, filter on to

Sugar . .	15 ounces.

Wash the precipitate with Distilled Water, sufficient to produce one pint of syrup.

Dissolve without heat. To be kept in full bottles, and syphoned off bright when required.

Dose.—½ to 2 drachms.

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phosphites of Sodium and Calcium, of each, 320 grains; Hypophosphite of Magnesium, 160 grains, Strong Solution of Hypophosphite of Iron (as above), 6 ounces, Distilled Water, *q.s.* to 1 pint. Mix, dissolve, and filter. *Dose.*—½ to 2 drachms.

Syrupus Ferri Hypophosphitis.—Strong solution of Hypophosphite of Iron, 4 ounces, Syrup, 16 ounces. Mix. *Dose.*—½ to 2 drachms

Syrupus Hypophosphitum Compositus.—Quinine (alkaloid), 20 grains; Strychnine, 1 grain; Strong Solution of Hypophosphite of Iron, 3 ounces Dissolve and add Hypophosphite of Calcium, 80 grains; Hypophosphites of Manganese and of Potassium, of each, 40 grains. Dissolve, filter, and add Syrup, *q.s.* to 1 pint. *Dose.*—1 drachm.

These preparations keep better than those of the B. P. C. formulæ. They must be kept in well-stoppered bottles.—P. J., 1887, 526.

Pilula Ferri Hypophosphitis cum Strychnina.
Strychnine, $\frac{1}{50}$ grain. Hypophosphite of Iron, 2 grains. To make one pill. *Dose.*—1 twice or thrice daily.

Manganesii Hypophosphis. - See p. 244.

Potassii Hypophosphis.

Dose.—1 to 6 grains.

A deliquescent granular white powder, having a nauseous, bitter taste. Soluble 1 in 1 of water.

Sodii Hypophosphis (*Off.*).

Dose.—1 to 10 grains.

A white granular deliquescent salt, with a bitter, nauseous taste. Soluble 1 in less than 2 of water.

Syrupus Hypophosphitum Compositus; B.P.C.

Quinine (alkaloid), 20 grains; Strychnine, 1 grain; Distilled Water, $\frac{1}{2}$ ounce; Hypophosphorus Acid, Sp. Gr. 1·136, 1 drachm or *q.s.*; Dissolve, filter, and add, Syrup to 5 ounces, Syrup of the Hypophosphites of Calcium, Manganese, and Potassium, 5 ounces, Syrup of Hypophosphite of Iron, 10 ounces. Each drachm contains $\frac{1}{100}$ grain of strychnine and $\frac{1}{8}$ grain of quinine.

Dose.—$\frac{1}{2}$ to 2 drachms.

Syrups are prepared respectively of the Hypophosphites* of Calcium, Iron, and Sodium, which, although varying in strength as prepared by different makers, generally contain one grain of the salt in a drachm of the syrup, the doses of which are 1 to 2 drachms. Various compound syrups, liquors, and wines of the hypophosphites besides are prescribed, of which Liquor Ferri Hypophosphitis Compositus is most in use. See p. 291.—B M.J. i /80,472; P J. 1882,603.

In phthisis and like cases, hypophosphites raise the nervous power and improve the condition of the secretions.—L. i./61,518.

***Syr. Hypophos. Comp.**

The following formula has been published, based on an analysis; the product much resembles the advertised preparation:—Pyrophosphate of Iron (Sodio-citro-ferric Pyrophosphate), 15 grains; Hypophosphite of Sodium, 45 grains, Strychnine (dissolved with a drop or two of Diluted Sulphuric Acid), $\frac{1}{2}$ grain; Hypophosphite of Manganese, 15 grains; Sulphate of Quinine, 5 grains; Distilled water, 1 ounce. Heat gently to dissolve, without further addition of acid, and add to Syrup *q.s.* to weigh 16 ounces. *Dose.*—One teaspoonful.

Phthisis, 12 cases treated with hypophosphites; result apparently nil.—L. i./63,463.

They act as respiratory excitants, expand the chest, increase animal heat and nervous force, remove erratic pains, increase appetite and check night-sweats.—M.T.G.i./71,162.

Phthisis, 57 out of 100 cases improved under their use. Considered the best general tonics in incipient consumption and in the more advanced stages when the progress of the disease has been arrested.—L. ii./79,311, 344. Further remarks.—B.M.J. ii /82,11.

In infantile diseases the use of the mixed hypophosphite salts is recommended. B.M.J. i./80,472.

Wheat - Phosphates, Saccharated, the soluble part of bran—the organic phosphates and cerealin (ferment of bran) combined with sugar of milk—are specially useful in weakly and rickety children, and where digestion is impaired seem to aid the assimilation of food and even of such medicines as iron.

Dose.—Half a teaspoonful (increased) 2 or 3 times a day, may be taken as sugar with food.

PHYSOSTIGMA.

Calabar Bean (*Off.*).

Dose, in powder.—1 to 4 grains.

The poisonous properties of this drug, the dried seed of *Physostigma venenosum*, chiefly due to Physostigmine, are said to be contained principally in the integument.

Preparations of Physostigma and its alkaloid Physostigmine, applied topically to the eyes, contract the pupil, and are anatgonistic to atropine.

For tetanus the dose of extract given by mouth, rectum, or hypodermically, should be repeated, and increased every hour, so as to produce paralysis little short of arresting the breathing. For chorea also it is given in smaller doses. In paralysis it arrests muscular wasting and improves muscular power. In hemiplegia or paraplegia, give doses of $\frac{1}{30}$ to $\frac{1}{10}$ grain frequently.—R.

Extractum Physostigmatis (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, in a pill with sugar of milk; in cases of tetanus may be given every hour and increased.

This extract, if carefully prepared with alcohol of full strength, is dark brown, soft, and viscid, not miscible with water nor glycerine, but may be emulsified with gum and spirit, as in the following formula.

Injectio Physostigmatis Hypodermica.

Extract of Calabar Bean ... 10 grains.
Rectified Spirit . .. 10 minims.
Rub together till smooth, and add
Gum Acacia .. . 10 grains.
Mix, and add gradually
Distilled Water to . $\frac{1}{2}$ ounce.
Dose.—3 to 12 minims.

Traumatic tetanus, cases of, treated with Calabar bean. $\frac{1}{8}$ grain of the extract every hour, then $\frac{1}{6}$ grain every 2 hours, was successful.—L. i./68,434,463.

Antagonistic to strychnine, *not* to be depended on as a remedy for poisoning by.—B.M.J. ii./74,805.

Physostigmina. Physostigmine (*Off.*).

Syn.—ESERINE. *Dose.* $\frac{1}{100}$ to $\frac{1}{50}$ grain.

The alkaloid is in large colourless rectangular crystals, slightly soluble in water, soluble 1 in 180 of vaseline.

Lamellæ Physostigminæ, Discs of Physostigmine. (*Off.*).

Each contains $\frac{1}{1000}$ grain of Physostigmine; also prepared containing $\frac{1}{250}$ grain and $\frac{1}{500}$ grain respectively, for ophthalmic use

Hypodermic Lamels contain $\frac{1}{100}$ grain.

Physostigminæ Hydrobromas, Physostigmine Hydrobromate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain

A whitish amorphous powder, as met with in commerce, slightly hygroscopic, very soluble in water.

Physostigminæ Salicylas, Physostigmine Salicylate, U.S.

Syn.—PHYSOSTIGMINUM SALICYLICUM, P G.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

In colourless, shining needle-shaped, or short columnar crystals. A stable salt, soluble 1 in 140 of cold water, forming a colourless solution, which becomes red in a few days, but does not lose much in efficacy.

Injectio Physostigminæ Salicylatis Hypodermica.

One grain in distilled water *q.s.* to 160 minims, *Dose.*—1 to 6 minims. May also be used as eye drops in preference to the solution of the sulphate.

Physostigminæ Sulphas, Physostigmine Sulphate.

Dose.—$\frac{1}{80}$ to $\frac{1}{20}$ grain, increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, very hygroscopic and soluble in water.

Guttæ Physostigminæ, R.O.H.

Sulphate of Physostigmine 2 grains to Distilled Water 1 ounce.

Guttæ Physostigminæ Fortiores, R.O.H., are double the above strength.

R.O.H. also orders a combination of Sulphate of Physostigmine 1 grain with Hydrochlorate of Cocaine 5 grains to Distilled Water 1 ounce.

References.

For chorea $\frac{1}{32}$ to $\frac{1}{12}$ grain or more of sulphate hypodermically; also in tetanus.—L. ii./75,187.

For corneal ulcers in scrofula, solution of 2 grains to an ounce dropped into the eye; also in mydriasis and glaucoma.— Pr. xxi 291.

Presbyopia, useful for, $\frac{1}{500}$ to $\frac{1}{200}$ grain in solution dropped into the eye at a time. M P.G. i./76,174.

Use of salts as myotics.—B.M J. ii./79,363.

Acute glaucoma, cases of, cured by 2 or 3 eserine discs applied daily.- -B.M J. ii./81,921.

Use of in glaucoma and ocular neuralgia.—B.M.J. i./82,811.

Use of as a preliminary to extraction in cases of cataract. —B.M.J. ii./82,1293.

Painful corneal ulcers successfully treated with Eserine drops and warmth.—B.M.J. ii./83,864.

In glaucoma Eserine is indicated, in iritis Atropine.—Pr. xxxi.321.

Eserine may also cause glaucoma.—L. i./84,99.

Traumatic tetanus, a case recovered under doses of $\frac{1}{6}$ grain of sulphate of Physostigmine every two hours —Pr. xxxiii.255.

Eye diseases; a summary of those in which Physostigmine will do good.—Pr. xxxiv.104.

Ocular pressure increased by its use.—L. ii./86,183.

Effects of eye-drops containing 1 grain in 1 drachm, instead of 1 ounce.—L. i./87,621.

Use of eye-drops caused nausea and vomiting.—B.M.J. ii./87,510.

PHYTOLACCIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive, of a pale brown colour, obtained from poke root, *Phytolacca decandra*. Is nauseant and emetic, cathartic and alterative, used in syphilitic and rheumatic affections.

As a hepatic stimulant on the dog has considerable power; it also slightly stimulates the intestinal glands.—B.M.J. ii./78,912; Pr. xxiii.410.

Tinctura Phytolaccæ.—1 of root in 10 of equal parts Rectified Spirit and Water.

Dose.—3 to 10 minims.

Local application relieves painful mammæ, given internally at same time.—B.M.J. ii./87,844,921.

Orchitis relieved by 4 to 6 minim doses; it has antiscorbutic and antisyphilitic properties.—L. ii./85, 1161.

PICROTOXINUM.
Picrotoxin, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

A neutral crystalline principle obtained from the seeds of *Anamirta Cocculus*—cocculus indicus, in white needles or in laminæ, does not form salts. Soluble, 1 in 240 of water at 60°, freely soluble in glacial acetic acid, alcohol, and caustic alkaline solutions. It requires about 500 parts of olive oil or lard to dissolve it, and 60 parts of glycerine even if heated to 212° F. most of it also crystallizes out on cooling. Taste bitter. It has been used with good results in checking night-sweats, also employed in epilepsy and chronic alcoholism; overdoses cause stupor, delirium, and convulsions. Other principles, Menispermic Acid, Anamirtin, and Cocculin, are stated to be contained in cocculus indicus, and also that Picrotoxin can be split up into two separate principles, Picrotoxinin and Picrotin.

Liquor Picrotoxini Aceticus.

Picrotoxin	8 grains.
Glacial Acetic Acid	4 drachms.

Dissolve and add

Distilled Water to	4 ounces.

Filter

Dose — 2 to 12 minims in water.

Is palatable and keeps in solution at all temperatures —Pr xxv 93, B M J i /80,351 For hypodermic injection a simple aqueous solution of Picrotoxin 1 in 240 is best used, but it is difficult to dissolve and apt to crystallize out

Pigmentum Picrotoxini.

Picrotoxin	8 grains
Glacial Acetic Acid	4 drachms.

Dissolve and add

Castor Oil	4 drachms
Oil of Eucalyptus	16 minims.

Has been recommended for ringworm of the scalp, but is not so efficacious as Coster's paste and other remedies, the Pigment will bear dilution with castor oil for parasitic skin diseases destroying pediculi, &c

Pilula Picrotoxini.

Picrotoxin $\frac{1}{60}$ grain triturated with sugar of milk and glycerine of tragacanth q s, to make one pill Forms a suitable dose for checking night sweating of phthisis taken for 2 or 3 nights successively it is slightly cumulative and may be discontinued and yet its effects last

References.

Physiological effects Edin Jour Med 1861,306

Epilepsy, useful for, especially when combined with anæmia and when the attacks occur at night — St Louis Clin Rec Oct 1876

Epilepsy and pharyngeal paralysis, good effects of $\frac{1}{15}$ grain by hypodermic injection Pr xvii 369

Night-sweating of phthisis, 2 to 4 minims of the acetic solution or $\frac{1}{120}$ to $\frac{1}{60}$ grain in pill was very efficient does not, like atropine or belladonna, produce dryness of the throat, or any unpleasant effect Pr xxiii 241

Antagonism between Picrotoxin and chloral-hydrate $\frac{1}{50}$ grain sufficient for 30 grains of chloral —B M J i./75,506,541, L H 238

Periodical sick-headaches, $\frac{1}{60}$ to $\frac{1}{20}$ grain by hypodermic injection, or $\frac{1}{50}$ to $\frac{1}{15}$ grain by mouth, and as ointment 10 grains to an ounce, is used for parasitic skin affections —B

Used in epilepsy, not successful —L 1/80,553

Therapeutic uses, in checking night-sweats, &c — B M J 1/80,96

Letter on its pharmaceutical preparations —B M J 1/80,851

Pilocarpine —See p 233

PILULÆ

Pills

Medicines prepared in a pilular form are very portable, as they can be supplied to the patient in the smallest possible bulk in equally apportioned doses The pill is a convenient mode of administering nauseous medicines, those that are insoluble in water and not easily suspended in it, and those drugs whose gradual action is required A pill should be perfectly globular and firm, so as not to lose its shape, yet should not be too hard so as to be insoluble, or even slow in dissolving, unless the prescriber wishes it as is sometimes the case, *e g*, 5 grains of dried sulphate of iron with one minim of syrup form a not very large but useful pill, which, by dissolving slowly does not derange the stomach, whereas an equivalent dose of the salt in solution would, in many cases, act as an emetic Again dinner pills of aloes and mastic are prescribed to be made up with spirit by some physicians, who intend them to dissolve, not in the stomach, but in the bowels principally, where their peristaltic action is required It is the duty of the dispenser not to deviate from using the excipient ordered, unless for example, a fluid excipient is ordered along with extracts whose normal condition is too soft to begin with If the choice of the excipient be left to the dispenser, as is often the case he should choose one which will not be incompatible with but, if possible, have a preservative action on the other ingredients of the pill neither inconveniently increase its size nor interfere with the quick or prolonged action intended by the prescriber

The Pill Mass, in the first place should be firm and solid, yet possess tenacity and be plastic when worked As in building a wall bricks and mortar are required in due proportion, so a good pill mass requires particles void of fluidity, with adhesive, semifluid substance to bind them together. Where there is but little fibrous or insoluble solid particles prescribed, the mass should be made as hard as possible and quickly rolled out, else the pills will not keep their shape. Most vegetable powders contain fibrous matter and have their adhesive properties while dry in a latent condition, these merely require a suitable fluid added to develop their tenacity and enable them to be rolled into pills. As a powerful solvent and preservative, glycerine, diluted with one-half its volume of rectified spirit, used discreetly, is a good excipient for such powders. If used in the pure state in the slightest excess, glycerine, being slightly hygroscopic, causes the pills in time to have an unsightly, moist appearance, whereas, if diluted with spirit, the spirit readily evaporates from them. Glycerine in any form should not be used as an excipient for hygroscopic drugs, such as soft extracts, squills, aloes, &c. For these mucilage of acacia or syrup is preferred. For insoluble metallic salts, glycerine requires additional adhesiveness, for such and a number of other drugs it is best used in the form of glycerine of tragacanth (see p. 360), adding, if necessary, a small quantity of powdered acacia or althæa to give firmness to the pill. The use of glycerine should be avoided in pills intended to be varnished; in place of glycerine of tragacanth, use for these a little of equal parts acacia and tragacanth, with syrup *q.s.*

Powders to be formed into pills should be as finely comminuted as possible; any poisonous alkaloid or very active drug should be well triturated with some less active powder, or, if the formula contains no other powder, with a little sugar of milk, before mixing with the other ingredients. Having mixed the powders and diffused any essential oil evenly through them, the extracts and other excipients should be added, the whole well pounded into a mass, rolled into pills, and dusted over with lycopodium, powdered starch, or French chalk, in the usual manner.

But the public now require pills to be made as tasteless and as small as possible. A one-grain pill is much preferred to a 5-grain one; yet, unless specially ordered otherwise, when the ingredients prescribed for each pill weigh less than one grain, it is a rule with dispensers, for uniformity's sake, to triturate the ingredients with sugar of milk and glycerine of tragacanth *q.s.*

to make each pill weigh one grain. These excipients, glycerine of tragacanth and sugar of milk, generally are as neutral as any that can be chosen. Pills made with them will remain plastic and active any length of time.

As a means of rendering pills tasteless, silvering or gilding are giving place to covering them with solution of sandarach, gelatine, or pearl-coating them with French chalk and gum, or sugar-coating them.

Varnishing Pills—The writer's plan of using a sandarach solution — 1 part sandarach in 1 part of absolute alcohol (= Pill Varnish: Pharm. Jour. 1870,414)—may be done extemporaneously. The pills should be perfectly made—well mixed, and free from contamination and powder, as every imperfection will show through the transparent coating. Having placed them in a covered pot, a few drops of the sandarach solution are poured in and diffused equally over the pills by a few circular movements of the pot held in one hand. They are then poured out on a clean plate and detached from each other. After 4 minutes each one is moved, and in 10 minutes all are moved and again shaken. In about 20 minutes they will be quite dry, but are better allowed to be exposed to the air an hour or so more.

In **coating** Pills with **Gelatine**, they should be free from powder, and not too dry. A solution is prepared by dissolving 1 part of gelatine in 4 parts of water, straining whilst hot through fine muslin, allowing to cool and re-heating to get rid of air bubbles. The pills are stuck on the points of fine needles and dipped into the solution, kept hot by a water bath; as they are taken out, each needle is slowly revolved to make the coating even on the pill, the reverse end of the needle is then stuck into a sheet of cork or pincushion, and the needles are left in this upright position till the pills are dry, which is usually in about half an hour.

In **pearl-coating** Pills they should be made firm and free from powder; they are first evenly covered with a mucilage of tragacanth 4 grains to 1 ounce with half a drachm of syrup added; this is done by shaking them in a covered pot with a few drops of the mucilage, they are then thrown into another covered pot having a concave bottom and containing some finely powdered French chalk; after gently rotating them in this for a few seconds they are turned into a third clean and similar pot and rotated slowly; the excess of powder is then blown off, the lid placed on the pot, and they are finished by shaking them quickly and regularly round until they become even and polished.

The **sugar-coating** of Pills is a confectioner's art. It can only be done successfully in large quantities, and the pills must be hard and dry, they are placed in a hemispherical metallic pan kept warm, while making eccentric revolutions, and are alternately moistened with syrup, and dusted with finely-powdered sugar, till dry and uniformly covered.

The **keratine-coating** of Pills is performed for the purpose of rendering them insoluble in the gastric juice, so that they pass into the intestine unchanged. Their action is thus localised. For this purpose, only oily excipients should be used, and the pills should be covered with a thin layer of cacao-butter previous to applying the

Keratine Solution.

This is made by removing from horn shavings all that is soluble in pepsin and diluted hydrochloric acid. The residue is dissolved in solution of ammonia or glacial acetic acid, and evaporated to a mucilaginous consistence—this forms the gum-like liquid, keratine solution. The pills require three coatings with this liquid, and so prepared they are freely soluble in the alkaline liquid in the intestine, and, although insoluble in the acid gastric juice, their coating is partially soluble in acetic and citric acids, which should therefore not be taken at the same time.—P.J. 1884,422

Concentric Pills consist of several distinct layers of medicaments, each layer coated separately, ensuring the successive digestion of the drugs; or, if required, their solution in different parts of the body, *e.g.*, an external coating of gelatine dissolves in the stomach, an inner of keratine in the intestine; ensuring localised action.—B.M.J. ii/86,683; C.&D ii./86,735,774.

In all pharmacies it is found convenient to keep a number of pills besides those of B.P. ready prepared. A list of those in general request in London is contained in the index.

Cachets are lenticular capsules of wafer paper, consisting of two watch-glass shaped halves, which cohere on moistening the margins.

They are useful for enclosing nauseous or insoluble drugs. They should be dipped in water immediately before swallowing.

Empty Gelatine Capsules are short tubes closed at one end, telescoping into one another, used for a similar purpose.

PINUS SYLVESTRIS.

Scotch Pine (*Off.*). *Syn.*—SCOTCH FIR.

From the wood of this much of the European oleoresin, common turpentine, oil of turpentine,* and tar are produced. From its leaves also are prepared an extract, volatile oil and wool, at certain establishments in Germany, where a system of treatment of rheumatism and other diseases by baths, &c., known as the **Pine Cure,** is followed.

Fir Wool, or **Fir Wool Wadding,** is sold as a brownish yellow fibre, in sheets like cotton wool; it has the faint, agreeable odour of the Pine-leaf, and is manufactured into blankets, jackets, spencers, stockings, &c. A Liquor is obtained, which is employed for baths. On evaporation this yields

Extractum Pini Sylvestris. Fir-Wool Extract.

A dark brown liquid of the consistence of treacle, readily soluble in water and having a faint pine odour; 2 to 4 ounces are added to a 30-gallon warm bath for rheumatism.

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* "**Sanitas" Disinfectants,** prepared from oil of turpentine, include

"**Sanitas" Fluid,** the aqueous solution resulting from the action of water upon air-oxidised turpentine, containing as its active principles peroxide of hydrogen, thymol, a soluble camphor, and some camphoric acid. It is an oxidising agent and an antiseptic, is non-poisonous, does not stain linen, is useful for household disinfection and for surgical operations. **Toilet "Sanitas"** is similar, with an agreeable perfume **"Sanitas" Oil** is an air oxidised turpentine, the oxidation being conducted in the presence of water; it has Sp. Gr 0·95 An organic peroxide is present in it, which gives it an oxidising strength equal to that of a ten-volume solution of peroxide of hydrogen. As an antiseptic it may be mixed with sawdust and sprinkled about, or diluted with alcohol or methylated spirit and sprayed in a room, or diluted 1 in 8 to 20 of olive oil for various surgical dressings and affections of the skin. Mixed with powdered acacia, then boldly diluted with water and well shaken, it forms a "Sanitas" emulsion which can be diluted further *ad lib.* for various purposes.

Oleum Pini Sylvestris. Fir-Wool Oil (*Off.*).

In the preparation of the wool this is obtained by distillation from the pine-leaf. It is colourless, and has the agreeable odour of the fresh pine-leaf. It has Sp. Gr. 0·868. For rheumatism it is applied by rubbing, and the affected part is afterwards covered with warmed Fir-wool wadding; it is also added in quantities of a drachm or more to warm baths for the same disease.

Vapor Olei Pini Sylvestris (*Off.* and **T.H.**)

Fir-Wool Oil	40 minims.
Light Carbonate of Magnesium	20 grains.
Water, to	1 ounce.

One drachm to a pint of water at 140° F. forms a mild stimulant inhalation in chronic laryngitis.

Oleum Pini Pumilionis, T.H., 1876 (but deleted from last edition). Under the fancy names of Pinol and Pumiline, the oil of the leaf of Pinus Pumilio is recommended as possessing more agreeable odour and taste than the last. The oil is used for inhalations, and an extract for baths. Jujubes, pastilles, and soaps are also sold, medicated with the oil.—L. i /88,463.

Sanitary Wood Wool, and **Wood Wool Wadding** consist of finely-comminuted pine wood, rendered antiseptic with sublimate; they are very absorbent, and are now much used for dressing wounds; and the wadding is formed into "diapers" for ladies' use in menstruation and hæmorrhage, and into accouchement sheets; triangular pads are also made (bapkins) to assist in the cleanliness and comfort of infants.—L. ii./87,806,848; B.M.J. ii /87,1014.

PIPERINA.

Piperine, U.S.

Dose.—1 to 10 grains.

A crystalline base obtained from black and long pepper, the fruits of *Piper nigrum* and *Piper longum*, in large colourless prisms, which turn yellow with keeping. Insoluble in water, soluble in alcohol, and less soluble in ether. Almost tasteless, but its spirituous solution has a peppery taste. The pungency of pepper is not due to

Piperine. It has been used in conjunction with eucalyptol for neuroses and congestion of the spleen.

Febrifuge action is energetic, it neither changes, retards, nor suppresses any secretion or excretion.—M.T.G. ii./60,18.

Ague cured by doses amounting to 18 grains a day.—B.M.J. ii./86,449.

PISCIDIA.

Jamaica Dogwood.

The bark of the root of this tree, *Piscidia erythrina*, is employed in the West Indies to intoxicate fish. In America it is employed to relieve toothache, and as a general sedative; it is said to be specially useful in allaying the cough of bronchitis and phthisis; does not interfere with expectoration, or lower the vital force. —P.J. 1844,76,111. It is said to be an effective substitute for opium, to allay pain, spasm, and nervous excitement, and to produce tranquil sleep. It dilates the pupil.

Extractum Piscidiæ Liquidum.

Dose.—20 minims to 2 drachms.

One drachm equals 1 drachm of the bark. Is a good narcotic, does not cause headache nor constipation.—B.M.J. ii./83,903; P.J. 1886,1014,162.

PIX LIQUIDA.

Tar (*Off.*).

Dose.—2 to 10 grains in a pill with lycopodium, or in perles.

Since Bishop Berkeley wrote his "Siris" in praise of tar-water, to which the phrase, "cheer but not inebriate," was applied by him, and since Dickens's "Joe Gargery's wife" had such belief in its virtues, when given internally, Tar has comparatively fallen into disuse.

As a diuretic and in bronchial catarrh and winter cough, it is very useful.—B.M.J. ii./75,380,498.

On account of their antiseptic properties, both Wood and Coal Tar and preparations of them have been used for surgical dressings. The former yields Creasote, which is a much more powerful although a less manageable germicide than the carbolic acid or cresylic acid contained in the latter. During the late American war, oakum (old tarred rope carded) was much employed as an absorbent antiseptic wound-dressing; but generally its fibres are too coarse and harsh; yet, under the name of **Tenax,** a fine carded oakum is sold in 1-lb. packets.

Marine Lint, also in 1-lb packets, is tow impregnated with fresh tar; is a cheap and useful antiseptic dressing.—B.M.J. i /80,476.

Aqua Picis. Tar Water; *Syn*—Aqua Picea; Eau de Goudron (Codex 1884).

Tar	1.
Pine Sawdust .	3

Mix and add

Distilled Water ...	200.

Macerate, with frequent shaking, for 24 hours, and filter.

Dose.—5 to 10 ounces.

Oleum Picis Rectificatum, Light Oil of Tar.

Two distilled oils of Wood Tar are met with in commerce, one light, known also as Rectified Spirit of Tar, having Sp. Gr. 0·853 to 0·867, is colourless when fresh, but becomes sherry-coloured with age, this is a most powerful deodoriser, and is used for making Coster's paste (p. 228). The other is an opaque black dense oil, heavier than water.

Perles of Tar.

Dose.—1 or 2. The Tar is enclosed in small globular capsules, containing about 2½ grains in each.

Pilula Picis Liquidæ.

Tar	2 grains.
Lycopodium .	1 grain.

Make a Pill

Dose—1 or 2; useful for winter cough.—B M J. i./75,498.

Syrupus Picis Liquidæ, Syrup of Tar, U.S.

Tar 6 (washed with cold water, 12, during 24 hours), stir with Boiling Water 50 for 15 minutes, and after 36 hours filter, and dissolve Sugar 60 in filtrate without heat.

Dose.—1 to 4 drachms

Taste may be covered by addition of an equal quantity of syrup of wild cherry (see p. 318); $\frac{1}{10}$ grain of hydrochlorate of apomorphine may also be added to each dose. Useful in chronic bronchitis.—B.M.J. i./88,463.

Unguentum Picis Liquidæ. Tar Ointment (*Off.*). Tar 5, Yellow Wax 2.

Useful in psoriasis.

For use in skin diseases, four special kinds of Tar, imported from Germany, are met with. Unlike common Tar, they are perfectly liquid. They are also known as empyreumatic or pyroligneous oils, viz.:—

Oleum Betulæ Pyrolignenm. Birch Tar.

Oleum Cadinum. *Syn.*—Oleum Juniperi Pyroligneum. Juniper Tar. Huile de Cade. Said to be obtained from *Juniperus Oxycedrus.*

Oleum Fagi Pyroligneum. Beech Tar. On the Continent used as a source for creasote.

Oleum Rusci Pyroligneum. Said to be obtained from Butcher's Broom. (This must be distinguished from the *Oleum Rusci*, almost colourless, prepared in Germany by digesting Butcher's Broom in olive oil.) Is really a Birch Tar, identical with the above.

These Tars have similar properties for forming ointments for skin diseases; their odour is less disagreeable, they are cleaner, and they are thought to be more efficacious than common Tar. The Birch Tar is esteemed on account of its peculiar odour, well known in Russia leather. Oleum Cadinum (Huile de Cade) is the most used. They are all soluble in oils, fats, wax, unctuous petroleum, and chloroform, but do not perfectly blend with alcohol.

Unguentum Olei Cadini.

Yellow Wax . . . 1 ounce.
Melt and add
Huile de Cade .. ... 1 ounce.

Heat gently and stir till cold. Used in psoriasis and dry eczema. Similar ointments may be made of the other Tars, the proportions may be varied and lard may be used as a diluent if a weak ointment be required.

Chronic eczema, 2 cases cured by an ointment of Oil of Cade 1, Vaseline 4—B M J. ii /83,817.

PODOPHYLLIN.

Syn.—RESINA PODOPHYLLI (*Off*).

Dose.—$\frac{1}{4}$ to 1 grain as a cholagogue and aperient $\frac{1}{30}$ to $\frac{1}{15}$ frequently as an alterative.

The resin obtained from the dried rhizome of *Podo-*

phyllum peltatum—American mandrake, or May apple, sometimes called vegetable mercury, as it is a powerful biliary purgative. It is a pale greenish-brown amorphous powder, with an herby odour and acrid taste, soluble in aqueous ammonia, almost entirely soluble in rectified spirit, leaving undissolved inorganic impurity, with, it is said, traces of hydrochlorate of berberine.

The crude resin may be divided by treatment with ether, which dissolves a portion and leaves another which is soluble in alcohol but not in ether. The former has a bright yellow colour, an herby odour, and acrid taste; the latter has a pale brown colour, is odourless, and has a less acrid taste than the other. The writer found little difference in their purgative action. The brown resin was more prompt.—Pr. xxviii.54; P.J. 1877,456. The crude resin is a slow and rather uncertain purgative, requiring from 12 to 20 hours to act.

In a later research by Podwissotzki, he obtains from a chloroformic extract of the root an amorphous principle, which is free from the fatty and colouring matters of the official resin. This he names **Podophyllotoxin**; it is more certain in its action than Podophyllin and is given in dose of $\frac{1}{10}$ to $\frac{1}{8}$ grain, to children $\frac{1}{60}$ to $\frac{1}{30}$ grain. It is best administered by dissolving 1 grain in 2 drachms of rectified spirit. Dose, 2 to 10 drops in a teaspoonful of syrup.—P.J. 1882, 623,1011; L. ii./81,568; M.R. 1883,14. **Podophyllotoxin** is in its turn capable of being separated into a bitter crystalline acid (Picropodophyllic Acid), a bitter, crystalline neutral body (Picropodophyllin), the latter of which is the more medicinally active, and an amorphous substance (Podophyllic Acid) which is inert.

Pilula Podophyllin.

$\frac{1}{30}$, $\frac{1}{4}$ or $\frac{1}{2}$ grain of the resin in each, well triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill.

Pilula Podophyllin Composita, U.C.H.

Podophyllin	$\frac{1}{4}$ grain.
Barbadoes Aloes	1 grain.
Capsicum	$\frac{1}{2}$ grain.
Extract of Belladonna ...	$\frac{1}{4}$ grain.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. One or two form a biliary aperien dose.

Pilula Podophyllin et Quininæ.

Sulphate of Quinine	...	1 grain.
Podophyllin	... ...	$\frac{1}{12}$ grain.
Sugar of Milk	... ...	$\frac{1}{12}$ grain.
Extract of Belladonna	...	$\frac{1}{6}$ grain.
Extract of Socotrine Aloes	..	1 grain.

To make one pill. In making these pills, let the podophyllin be well triturated with the sugar of milk and then with the quinine. They are useful "dinner pills."

Tinctura Podophyllin (Dobell).

Podophyllin	... ...	1 grain.
Essence of Ginger ...	...	1 drachm.
Rectified Spirit to ...	...	1 ounce.

Dose.--A teaspoonful in water at bedtime every, or every 2nd, 3rd, or 4th night, as required, better than in pill; this forms "one of the most satisfactory and reliable of our medicines."—B.M.J. i./79,892.

Tinctura Podophylli (*Off.*).

Podophyllin	... ...	1 grain.
Rectified Spirit	... ...	1 drachm.

Dissolve and filter. *Off. dose*—15 to 60 minims.

In dose of 2 to 4 drops in tea or coffee, taken night and morning, is useful in sick-headache and biliousness, where the bowels and liver are sluggish in worried and over-worked patients, and in chronic diarrhœa with cutting pains and high-coloured motions. Also relieves constipation with clay-coloured motions following diarrhœa of infants, 1 or 2 drops on sugar twice or three times a day.—R. Its taste is acrid and disagreeable.

Tinctura Podophyllin Ammoniata.

Podophyllin	... ...	1 grain.
Aromatic Spirit of Ammonia		1 drachm.

Dissolve.

Dose.—2 to 6 minims as an alterative, 10 to 20 minims as a purgative and cholagogue, taken in a wineglassful of water or milk. Good Podophyllin will dissolve perfectly in spirit of sal volatile. This tincture has an advantage over the other tinctures of Podophyllin of forming a solution from which, on addition to water, the resin does not separate. The sal volatile also acts as a corrective.

A powerful hepatic stimulant, and in large doses a violent purgative. It is a very powerful stimulant of the liver of the dog. During the increased secretion of bile, the percentage of the special bile solids is not diminished; if the dose be too large, the secretion of bile is not increased; it is a powerful intestinal irritant.—Pr. xxiii.335; B.M.J. Rep. 1878,4; B.M.J. i./79,177.

As a purgative for children, 1 grain recommended.—M.T.G. ii./61,520.

By causing vomiting and purgation, 1 grain cured a case of convulsions in a child 3 years old.—M.T.G. ii./61,626.

Résumé of its medical properties, as a purgative and cholagogue, used in syphilis, rheumatism, and scrofula.—M.T.G. ii./70,647.

POTASSIUM.

Potassa cum Calce, P.L., consists of equal parts, in powder, of caustic potash and quicklime; it is also sold moulded into pencils. For **Vienna Paste,** see p 336.

Potassii Cyanidum, Cyanide of Potassium (*Off.*).

Used to purify bismuth; may be either in fused masses or in crystals No dose is mentioned, but $\frac{1}{12}$ to $\frac{1}{4}$ grain may be given; a solution of one grain of the crystals in 23 minims ($20\frac{10}{11}$ grain-measures) of distilled water is equivalent in strength to Acidum Hydrocyanicum Dilutum (2 per cent.), in place of which it is sometimes used.

Potassii Nitras, Nitrate of Potassium (*Off.*)

Syn.—NITRE; NITRATE OF POTASH.

Dose.—5 to 30 grains.

Fumus Potassii Nitratis (Nitrated Papers), T.H.P.; Charta Nitrata, P.G.

Nos. I. II. and III. are made by saturating white blotting-paper with solutions of Nitre, 30, 45, or 60 grains respectively in an ounce, and drying. No. III. is the strongest. Burnt to inhale the fumes for asthma.

Asthmatic Pastilles are prepared in cones containing a mixture of chlorate and nitrate of Potassium.

Ozone Papers are similar in composition.

In addition to the above, various powders and cigarettes are sold as nostrums, the fumes of which while burning are employed to relieve attacks of asthma of which Nitre is a constant and Stramonium is generally an ingredient; Himrod's Cure, Bliss's Cure, and the Green Mountain Cure may be imitated by the following:—

Pulvis Lobeliæ Compositus.

Nitrate of Potassium ...	2 ounces.
Boiling Distilled Water ...	2 ounces.

Dissolve and add to

Lobelia, in powder.	2 ounces of each.
Stramonium Leaves, in powder.	
Black Tea, in powder.	

Mix well, dry, and add Oil of Anise 4 minims. The fumes of half a teaspoonful or more, burnt on a plate, to be inhaled six or eight times a day, and the bedroom fumigated with the same.

Arsenical Cigarettes are made of paper impregnated with arseniate of sodium, so that each contains ¾ grain of the salt. The patient ought to inspire the fumes deeply three or four times.—L. ii./81,83.

Ophthalmic discs contain $\frac{1}{250}$ grain nitrate of potassium combined with gelatine.

Potassii Permanganas, Permanganate of Potassium (*Off.*).

Dose.—1 to 5 grains in well-diluted solution, or in pill.

The deoxidising and disinfecting properties of a solution of this salt are well known. The official solution contains 1 per cent. The **Saturated Solution** 1 in 20 is more convenient for use. It is deep purple, and, when much diluted, crimson. Diluted 500 times, it is suitable for a lotion or gargle, or for pouring down sinks, drains, &c. It has the advantage over other disinfectants in having this distinctive colour, so that it cannot be mistaken for any other medicine; it has no disagreeable odour, and besides being a deodoriser, it quickly disintegrates all fetid and decomposing organic substances and albuminoid bodies, whether in a solid form or in solution, living or dead, with which it comes in contact. It destroys bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

Permanganate of potassium is used for dying white hair to a chestnut brown colour.

In amenorrhœa, 1 or 2 grains, in a pill 3 or 4 times a day for a few days before the time of the expected period, will bring on the flow almost to a certainty.—L. i./83,7; i./85,59,70,189,322,647,925; i./88,642; B.M.J.i./85,778.

In gonorrhœa, solution of ½ grain in 1 ounce recommended as an injection.—L. i./83,45,86.

For counteracting serpents' venom.—L. i./83,768, 967; ii./83,461; i./84,288; i./88,1007,1115.

Danger of ulceration being caused by permanganate tablets.—B.M.J. i./85,308,413,516,764,974.

Amenorrhœa following sea voyages, quickly relieved by its use.—Ed. M.J. March, 1887,848.

Nine cases associated with mental disease, six cured. Pills should be taken regularly for three months.—Pr.xl.428.

Carious teeth, pain of, relieved by a mouth lotion.—L. ii./87,86.

Abortion brought on by its use, two cases.—Th. Gaz. April, 1887,282; May, 356.

Pilula Potassii Permanganatis.

Permanganate of Potassium ... 1 gr., or more if ordered.
Kaolin Ointment (p. 237) ... *q.s.*

To make a pill, care must be taken not to triturate Permanganate of Potassium with any easily oxidised substance, like sugar, syrup, or glycerine, else spontaneous combustion may occur. The pills may be coated with sandarach solution and rendered tasteless. A solution of Permanganate of Potassium is very nauseous.—L. i./83,81, 107; P.J. 1883,580,600,620.

Permanganate of Sodium, in solution, green in colour, is used as a cheap disinfectant, and **Permanganate of Zinc**, in deliquescent dark brown iridescent crystals, like the Potassium salt, is used for lotions and injections, where the astringent action of the zinc is indicated. **Permanganate of Calcium** is preferred for making mouth lotions, as it has least taste.

Potassii Phosphas, Phosphate of Potassium, Dipotassic Hydric Phosphate.

A deliquescent granular powder; is given as an alterative in phthisis and urinary affections. *Dose.*—1 to 10 grains.

Potassium Silicate, solution of.—See Sodium, p. 339.

Potassii Succinas, Succinate of Potassium. A deliquescent powder; has been used in doses of 5 to 10 grains to control hæmorrhage. **Ferri Succinas**, Ferric Succinate, a reddish-brown insoluble powder, has been given to remove biliary calculi in jaundice.

PRUNUS VIRGINIANA.

Wild Cherry Bark, U.S.

This bark contains amygdaline, and on distillation with water yields an essential oil which is rich in hydrocyanic acid; on simply moistening the bark with water, the odour of the latter is developed. It possesses bitter tonic properties, with more or less sedative ones. The preparations in use here—the tincture and syrup—form agreeably flavoured medicines, which are used to palliate the cough in phthisis and bronchitis, in palpitation of the heart, and debility, particularly of the digestive organs.—L. i./80,97.

Preparations.

Syrupus Pruni Virginianæ, U.S.

Wild Cherry Bark, in powder		12
Distilled Water	.. ..	*q.s.* to moisten.

After 24 hours percolate until 35 of liquid are obtained; to this add

Sugar, in coarse powder	...	60

Dissolve without heat, and add

Glycerine	... ...	5

Dose.—1 to 2 drachms.

Tinctura Pruni Virginianæ, B.P.C.

Wild Cherry Bark, in powder		8 ounces.
Distilled Water	.. ...	15 ounces.

Macerate 24 hours in a closed vessel, and add

Rectified Spirit	.. ...	25 ounces.

Macerate 7 days more, express and filter, adding proof spirit *q.s.* to produce 2 pints.

Dose.—20 to 60 minims.

Prunin.

Syn.—CERASIN.

Dose.—1 to 5 grains.

Is prepared by evaporating the tincture and powdering the extract. It is pale brown in colour, and has a characteristic odour.

PULSATILLA.

Pulsatilla.

Pulsatilla nigricans or *Anemone pratensis* and *A. Pulsatilla* (these two plants are by some botanists considered varieties of one species) pasque flower, meadow anemone or wind flower.

The flowering herb imported principally from Germany.

Preparations.

Anemonin. **Pulsatilla Camphor.**

Dose.—$\frac{1}{60}$ to $\frac{1}{12}$ grain or more, well triturated with sugar of milk in a pill.

In neutral white volatile prismatic crystals, easily crumbled, sparingly soluble in water or ether, more soluble in alcohol, chloroform, and hydrochloric acid. Almost tasteless, but if heated is acrid and irritating. Obtained from *P. nigricans* and other species of anemone. It is poisonous—5 to 10 grains caused death of rabbits. Has been given for dysmenorrhœa and epididymitis. —Pr. xxi.377.

Is not very poisonous, 15 grains dose taken without harm.—Th. Gaz. 1887, Oct. 704, Nov. 770.

It irritates, then paralyses, the respiratory centre, and diminishes cardiac activity and voluntary movements by acting on the spinal nerve centres. Useful in bronchitis, convulsive cough, and asthma, in doses of 0·05 to 0·1 gramme ($\frac{3}{4}$ to $1\frac{1}{2}$ grains) daily, taken at twice.—M.P.C. ii./86,113, *ex* L'Union Medicale.

Tinctura Pulsatillæ.

From fresh plant in an equivalent quantity to 1 of dried in 10 of proof spirit.

Dose.—1 to 5 minims, or more; for amenorrhœa or dysmenorrhœa, a minim every hour or two hours, a day or two before periods.

Pulsatilla paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and the kidneys.—Clarus in Binz.

The tincture is praised as a remedy for spasmodic dysmenorrhœa and amenorrhœa.—Pr. xxi.377.

It is also used in catarrh of the air-passages with spasmodic cough, and some rheumatic affections. 1 to 10 of water is used as a lotion to the mucous membrane where there is a discharge of a muco-purulent character, especially useful in leucorrhœa.—Phillips, Mat. Med. and Ther.

Anemonin lessens the number of respirations and cardiac contractions in frogs, cutaneous sensibility and excitability of the motor nerves is preserved, but muscular irritability is lowered. The heart beats after respiratory movements cease.—L. ii./82,116.

Use in eclampsia and sympathetic neuroses; and other therapeutic uses in dose of tincture of 5 to 30 minims. —Pr. xxix.32.

Recommended in treatment of inflammation of the testes, cord, and epididymis --B.M.J. i./86,98.

PYRIDINA.

Pyridine.

A base, forming salts with acids, obtained from bone-oil and many organic substances by dry distillation and subsequent purification. It is a colourless, strong-scented liquid; boils at 243° F.; is contained in and combined with nicotine in the fumes of tobacco, and M. Sée thinks it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma. It relieves dyspnœa of asthma. A drachm of it is placed on a plate in a small room, in which the patient remains from 20 to 30 minutes three times a day. The respiration becomes easy, and, after a few sittings, the disease disappears more or less completely. In frogs and guinea-pigs, the irritability of the respiratory centre is lessened.—M.R. 1885,344.

Note on the relief of asthma.—L. ii./86,744.

QUEBRACHO CORTEX.

White Quebracho Bark.

The bark of *Aspidosperma Quebracho*, imported from the Argentine Republic, is met with in pieces about ¾ inch thick, with a fibrous cinnamon brown-coloured interior, breaking with a short fracture, and having a warty, reddish ochre-coloured suberous exterior. It has a bitter, slightly aromatic taste. It contains the alkaloid Aspidospermine and other principles.—P.J. 1882,781.

Investigations by Hesse, Harnack, and Hoffmann have shown that Quebracho contains six alkaloids, and that commercial Aspidospermine is a mixture of these, viz.:—Aspidospermine, Quebrachine, Quebrachamine, Aspidospermatine, Hypoquebrachine, and Aspidosamine (amorphous). Of these the bark yields most Aspidospermine, and it is most used.

Aspidospermine Sulphate (Froude), in dose of $\frac{1}{64}$ to $\frac{1}{32}$ grain hypodermically appears to lower temperature in typhoid where quinine fails; salts of Aspidospermatine are found to be more, and those of hypoquebrachine and quebrachine less, powerful antipyretics.—L. ii./84,1018.

Seems to assist the blood in absorbing more oxygen, relieves dyspnœa from various causes.- Th. Gaz. Jan. 1888,14.

Crude Aspidospermine Sulphate is deliquescent and unstable; it is much more soluble in water than the alkaloid. Quebracho and its preparations have been employed as remedies in certain forms of asthma and to relieve the dyspnœa of this disease.—B.M.J. i./80,167; Pr. xxiii.54.

Tinctura Quebracho.

Is prepared 1 in 5 of proof spirit.—P.J. 1879,485.

Dose.—½ to 1 drachm or more.

QUINETUM.

Dose.—1 to 5 grains or more.

The mixed alkaloids, in amorphous greyish white powder, obtained from red cinchona bark, *Cinchona succirubra*, slightly soluble in water, but readily and perfectly dissolves in it with the aid of a dilute acid. It consists principally of cinchonidine (50 to 70 per cent.) with some quinine, cinchonine, &c.; is much cheaper than quinine.

Quineti Sulphas, Quinetum Sulphate.

Dose.—1 to 5 grains or more.

The crystallizable sulphates of the above, in acicular crystals resembling quinine, slightly soluble in water, but readily dissolves with the aid of an acid. May be made into pills with glycerine of tragacanth, or given in aqueous solution with acid and tincture of orange-peel. It is not nauseously bitter.

As a tonic, 1 to 3 grains; in ague 10 to 15 grains; no unpleasant effects during its administration.—M.T.G. ii./76,474.

In ague does not produce deafness; is even more powerful than quinine.—Pr. xx.83.

In ague 10 to 15 grain doses act as well as quinine.—B.M.J. i./79,800; Pr. xxii.452.

QUINIDINÆ SULPHAS.

Quinidine Sulphate. *Syn.*—CONQUININE, or CONCHININ SULPHATE (Hesse).

Dose.—1 to 20 grains.

Quinidine is an alkaloid obtained from cinchona, principally from Pitayo and Cuprea barks. The sulphate is in white acicular crystals very like sulphate of quinine. Soluble in 350 of water, 1 in 32 of absolute alcohol, rendered more soluble in water by the addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts of the sulphate with one of glycerine of tragacanth in pills. Its solution is fluorescent, but dextrogyrate, and, like quinine, with which it is isomeric, its solution produces an emerald-green colour with chlorine water and ammonia. Quinidine salts are powerful antiperiodics, equal to those of quinine, to which they stand next in market value. Quinidine Sulphate is suitable for administration to children, being less bitter than the other cinchona alkaloids.

Reference.

In typhoid and ague, doses of 15 to 30 grains with diluted sulphuric acid and peppermint water were attended by good results. B.M.J. i./79,937, *ex* Allgemeine Medicin. Central-Zeitung.

QUININA.

Quinine.

Dose.—1 to 4 grains or more (if anhydrous, 3 parts are equal to 4 of sulphate).

The most valued alkaloid obtained from cinchona barks,—is a very bitter, white, or, if well dried, greyish white amorphous powder, slightly soluble in water, soluble in ether, alcohol, chloroform, and dilute acids.

Soluble also in aqueous ammonia. One grain dissolved in a drachm of aromatic spirit of ammonia forms an agreeable dose. Its solution in diluted sulphuric acid is fluorescent, levogyrate, and gives, with solution of chlorine and ammonia afterwards added, a characteristic emerald-green colour due to thalleioquin.

Preparations in use medically, with references.

Oleatum Quininæ. —See p. 265.

Oleum Morrhuæ cum Quinina.—See p. 265.

Quininæ Arsenias, Arseniate of Quinine.

Dose.—$\frac{1}{8}$ to $\frac{1}{4}$ grain, in a pill.

Is in small white acicular crystals, sparingly soluble in cold water. Medicinally, its arsenic is about one-tenth that of arsenious acid. It is an antiperiodic, given in chronic malarial fevers.

Quininæ Chloras, Quinine Chlorate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth.

In slender white needles, slightly soluble in water. It explodes when heated.

Quininæ Citras, Quinine Citrate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth, or slightly powdered and suspended in water, in which this salt is sparingly soluble - 1 in 900—has, therefore, little taste in this form. It is in acicular crystals like the sulphate.

Ferri et Quininæ Citras (*O.//.*).

Dose.—5 to 10 grains in aqueous solution, or in pills with Canada balsam, resin ointment, or mucilage of acacia (with the last excipient, unless made very hard, they lose shape). This much-used preparation contains 16 per cent. of quinine, is in greenish golden scales, slightly deliquescent and very soluble in water. It has an agreeable bitter, chalybeate taste.

Granular Effervescent Citrate of Iron and Quinine.

Dose.—60 grains 3 grains of above salt.

Syrupus Ferri et Quininæ Citratis.

Dose.—1 drachm or more. ains;

Is generally prepared by dissolving 3 grains M.T.G. Iron and Quinine in a drachm of syrup of or

Ferri, Quininæ et Strychninæ Citras (p. 344) is the former preparation, with 1 per cent. of strychnine added.

Quininæ Fluoridum.—See p. 36.

Quininæ Hydrobromas, Quinine Hydrobromate.

Dose.—1 to 5 grains or more.

In white acicular crystals, smaller than the sulphate, and much more soluble in water (1 in 24). Quinine is given with an excess of hydrobromic acid to lessen the cinchonism sometimes caused by large doses.—B.M.J. ii./76,42. Use as an antipyretic.—Pr. xvi.443.

Quininæ Hydrobromas Acida, Quinine Acid Hydrobromate.

Dose.—½ to 2 grains hypodermically.

In yellowish large rectangular prisms or masses of crystals, or in powder. A very soluble salt of quinine, dissolves 1 in 6 of water, richer in the alkaloid than the sulphate, is therefore well adapted for hypodermic injection. It is entirely unirritating.—M.R. 1880,143.

Injectio Quininæ Hydrobromatis Acidæ Hypodermica.

Acid Hydrobromate of Quinine	1 grain.
Distilled Water to	6 minims.

Dissolve.

Dose.—3 to 12 minims. Useful in ague where quinine cannot be borne by the stomach; a very much less dose of this will act than that required to be given by the mouth.

Hypodermic Lamels of Quinine contain ½ grain.

Quininæ Hydrochloras, Quinine Hydrochlorate (*Off.*).

Syn.—Muriate of Quinine.

Dose.—1 to 10 grains.

In acicular white crystals generally larger than the sulphate, soluble 1 in 24 of water, 1 in 3 of rectified spirit.

Very soluble salt of Quinine, and richer in alkaloid than the sulphate; contains 83 per cent. against 74½ per [illegible] the sulphate. Recommended for making Tincture [illegible]e and as an antiseptic.—P.J. 1878,407. [illegible]werful germicide; 1 in 800 prevented the [illegible]t of any germs in a liquid suitable for their

barks,—
white an
soluble in

growth.—B.M.J. ii./81,408; Trans. Med. Congress, 1881, i.466.

Quininæ Hydrochloras Acida.

Dose.—½ to 2 grains, hypodermically.

Is in white or yellowish white crystalline crusts very soluble in water. 1 in 6 is suitable for hypodermic injection.

Quininæ Iodas, Iodate of Quinine.

Dose.—1 to 5 grains.

Is in moderately soluble white silky needles.

Quininæ Iodidum, Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS, Quinine Hydriodate, QUININÆ HYDRIODIDUM, Quinine Hydriodide.

Dose.—1 to 5 grains.

Is in minute pale-primrose coloured crystals, but slightly soluble in water.

Quininæ Iodidum Acidum, Acid Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS ACIDA, Quinine Acid Hydriodate, QUININÆ HYDRIODIDUM ACIDUM, Quinine Acid Hydriodide.

Dose.—1 to 4 grains.

Is in golden acicular crystals, freely soluble in water. must be kept from the light. A saturated solution (about 2 grains in an ounce) in syrup of iodide of iron forms

Syrupus Ferri et Quininæ Iodidum.

Dose.—1 drachm.

Quininæ Lactas, Lactate of Quinine.

Dose.—1 to 5 grains, or more.

In commerce is found as a granular white amorphous powder, soluble 1 in 10 of water; said to be easy of digestion.

Is a very soluble salt of quinine and suitable for hypodermic injection.—L. ii./85,310.

For gonorrhœa, 1 per cent. solution forms an excellent injection.—Pr. xxxiv.132.

Quininæ Phosphas, Phosphate of Quinine.

Dose.—1 to 6 grains. Is in acicular crystals like the sulphate, but harder and denser.

Quininæ Salicylas, Quinine Salicylate.

Dose.—2 to 6 grains.

Is in white silky flexible acicular crystals, sparingly soluble in water, about 1 in 900, and the addition of acids does not help its solubility. Should be administered suspended in water, or better in pills with glycerine of tragacanth and a little acacia as excipients. In 3-grain pills; recommended for diarrhœa.

Useful in rheumatic gout, 3 grains every 6 hours.—L. i./80,540,582.

Quininæ Sulphas, Sulphate of Quinine (*Off.*).

Syn.—QUININE SULPHATE; DISULPHATE OF QUININE. (Formerly so termed, often now called simply Quinine, as it is the salt most largely manufactured and most cheaply and conveniently made.)

Dose.—1 to 5 grains as a tonic; 5 to 15 grains or more as an anti-periodic.

In slightly flexible acicular snow-white crystals, with a pure, intensely bitter taste. Soluble 1 in 740 of cold water, 1 in about 100 of rectified spirit, 1 in 40 of glycerine, is precipitated from solution by tannic acid, alkalies and their carbonates, but redissolved by an excess of aqueous ammonia. It is generally prescribed in solution or pills. To render ordinary doses of it soluble in water, a dilute mineral acid in the proportion of at least one minim to each grain should be ordered, the sulphate should be moistened with a little water before the addition of the acid, particularly if this be sulphuric acid, the soluble acid salt formed will thus be held in solution, and this may be diluted *ad libitum*. Tincture of orange-peel agreeably harmonizes with and covers the bitterness of Quinine. Although incompatible with alkalies, it is often ordered in conjunction with aromatic spirit or carbonate of ammonia, which precipitate the alkaloid as a sticky mass on the sides of the bottle. To avoid this separation, some mucilage of acacia should be prescribed in the mixture, which prevents the aggregation of the alkaloid and holds it suspended in the liquid. In cases of fever, large doses are thought to be more efficacious with the sulphate of quinine not dissolved. It may be given in moist wafer paper, or, diffused in water if lightly powdered so as to break the crystals, but not to make them cake and adhere. It can be conveniently formed into pills by adding to 4 parts 1 of glycerine of tragacanth, carefully avoiding excess of the latter, or strong sulphuric acid in the proportion of one drop to five grains, makes a good pill; confection of hips is often used as an excipient, 3 parts require 1 or more of confection. The uses of

Quinine internally are well known. Its solution possesse powerful antiseptic properties. Three grains to an ounc as an eye lotion has a specific action in diphtheriti ophthalmia.—L. i./80,125; L. i./82,6; L. ii./83,12.

Testing or purity of.— P.J. 1887,647,235.

Catarrh relieved by pills of quinine atropine and arsenic.—Pr. xxxviii. 179. See p. 83.

Collunarium Quininæ, Quinine Nasal Douche T.H.

Sulphate of Quinine	...	½ grain.
Water	...	1 ounce.

Dissolve by the aid of gentle heat. Used in hay-feve a little is placed in the palm of the hand and drawn u through the nose. If a stronger solution be requir the Acid Sulphate or Hydrochlorate of Quinine shou be used; an excess of acid for this purpose should l avoided.

Perles of Sulphate of Quinine (Pelletier's).

Contain 10 centigrammes (1½ grains) in each.

Syrupus Ferri, Quininæ et Strychnin Phosphatum.- See Ferri Phosphas, p. 192.

Tinctura Quininæ (*Off.*).

Dose.—½ to 2 drachms.

Hydrochlorate of Quinine 1 grain is dissolved in drachm of tincture of orange peel, and after three da filtered. A very agreeable form of taking small doses Quinine. As suggested by the writer, Hydrochlor of Quinine is now used in place of Sulphate.—P 1878,407.

Tinctura Quininæ Ammoniata (*Off.*).

Sulphate of Quinine	..	160 grains.
Proof Spirit ..	...	8 ounces.

Mix. Also mix

Solution of Ammonia	...	2½ ounces.
Proof Spirit ...	...	9½ ounces.

Add this to the above mixture, and the Quinine w dissolve immediately. Contains one grain in a drach The quinine precipitates on addition to water; mi with an equal quantity of syrup of orange-peel, it palatable, keeps bright, and bears dilution better.

Dose.—½ to 2 drachms.

Vinum Quininæ (*Off.*).

Contains one grain of the sulphate with a grain and a half of citric acid dissolved in one ounce of orange wine.

Dose.—½ to 1 ounce.

It is a much more satisfactory preparation, keeps brighter, &c., if made with the Hydrochlorate of Quinine.

Warburg's Fever Tincture. A nostrum, the published formula of which shows that it is a proof spirit tincture, containing Sulphate of Quinine 1 in 50, Socotrine Aloes 1 in 40, Opium about 1 in 4,000, Rhubarb 1 in 125, Camphor 1 in 500 with several aromatics.—L. ii./75,716.

As it is apt to purge as above prepared, the aloes may be omitted *if so prescribed.*

Dose.—1 to 4 drachms or more. Originally directed for Indian fever, ague, &c., half an ounce as a dose repeated in 2 or 3 hours; before giving the first dose the bowels should be freely opened, and no food recently taken. Between the two doses nothing should have been taken but a little brandy or beef-tea, and this only if the state of the patient required it.

Not to be compared with aconite in remittent fever.—Pr. xxvi.187.

Quininæ Sulphas Acida, Quinine Acid Sulphate.

Syn.—SOLUBLE SULPHATE OF QUININE, NEUTRAL SULPHATE OF QUININE (so-called when the other sulphate was called Disulphate).

Dose.—1 to 5 grains or more.

Usually met with in large rectangular prisms or masses of crystals. Soluble 1 in 12 of cold water.

Injectio Quininæ Sulphatis Acidæ Hypodermica.

Acid Sulphate of Quinine ...	1 grain.
Water, to	12 minims.

Dissolve. *Dose.* 4 to 18 minims.

Quininæ Sulphocarbolas, Quinine Sulphocarbolate.

Dose.—1 to 6 grains in pill with glycerine of tragacanth. One part of Sulphate of Quinine and two parts of Absolute Phenol, liquefy and form an oily, colourless fluid. If hot aqueous solutions of the two are mixed in equivalent quantities, Sulphocarbolate of Quinine separates on cooling. This salt is met with in commerce as an amorphous white powder, soluble 1 in 680 of water, 1 i 74 of rectified spirit. The so-called Carbolate of Quinin is generally a Sulphocarbolate as found in commerce.

Quininæ Tannas, Tannate of Quinine, P.G 1872. *Dose.*—1 to 4 grains. An amorphou whitish insoluble powder, obtained by the decom position of the sulphate with a solution of tannin Being almost tasteless, is recommended for children to be given in milk.

Quininæ Valerianas. *Dose.*—1 to 4 grains.

In white shining crystalline, odourless, rhomboid plates, or, as more frequently met with in commerce, a amorphous white powder with a slight valerianic odou soluble 1 in 110 of cold water; best administered in pill with glycerine of tragacanth and a little acacia as excipients, given in nervous headache and hysteria.

QUINOIDINA.

Quinoidine. *Syn.*—Chinoidin, U.S.

Dose.—1 to 5 grains or more.

The mixed amorphous alkaloids, purified from resi obtained as a bye-product in preparing salts of cincho alkaloids. It is a brownish-black, resinous-like substance, has a vitreous fracture, nearly insoluble water, is dissolved by acid solutions, which deposit dilution. Solutions either in boric or sulphuric ac are used as cheap febrifuges. The taste of these is ve nauseous.

RESORCIN.

Dose.—5 to 15 or 30 grains.

A derivative of benzol or phenol, in white crystall plates, larger than, but resembling, benzoic acid in appe ance, melts at 110° F., and is easily volatilised. Solu in less than 2 parts of water, and 1 in 20 of olive oil. possesses powerful antiseptic properties. A one per ce solution prevents putrefaction in such substances pancreas, blood, and urine, and a stronger solution destroy the vitality of low organisms. It coagul albumen, and has a caustic action on the skin, bu 2 per cent. solution is not irritating to it. It is effective remedy in diphtheritic affections, and produces no injurious consequences. A 5 per cent. solution may be injected into the bladder without causing any irritation, and is useful in inflammatory affections of this organ, likewise in vesical catarrh after gonorrhœa; 5 to 10 per cent. solution is of service also in syphilitic sores and skin diseases; and a 1 per cent. solution improves the appearance of unhealthy wounds, and is useful as an eye lotion in conjunctivitis. Given internally, it has a specific action comparable to quinine, but it is apt to produce profuse perspiration, and its antipyretic action is short; it is best administered well diluted with water and flavoured with syrup of orange or glycerine.—L. ii./80,777; L. ii./81,1065; B.M.J. ii./81,944; Pr. xxvii.381; Pr. xxix.189; Pr. xxx.63. Doses of 15 grains dissolved in Castor Oil are useful in diarrhœa, and 1 grain with a drachm of Infusion of Chamomile every two hours for cholera infantum.

Plaster Mulls are spread containing 50 per cent. of **Resorcin.**

Use as an application in cancer.—L. ii./82,1033.

Case of poisoning by, with recovery.—M.T.G. ii./81,486.

Whooping-cough, 30 successful cases treated by spray of resorcin every two hours.—B.M.J. i./84,695, and as a pigment to the larynx 1 per cent. solution used.—Edin. Med. Jour. 1884,61.

For impetiginous eczema, 1 or 2 to 10 of vaseline—Edin. Med. Jour. 1884,66. For lupus.—B.M.J. i./86, 956.

In diphtheria, 50 per cent. solution as a pigment, and internally 1 to 4 grammes daily.—L. ii./85,452.

Useful as a topical application in diphtheria, also internally in hectic with night sweats; these were unaffected by quinine alone, but under resorcin 2 grams and quinine 3 to 5 grain doses an improvement rapidly took place.—L. ii./85,558.

In psoriasis, a 20 per cent. ointment stains little, does not smell badly, nor injure the general health, but causes some pain.—L. ii./85,577.

Local application to condylomata and mucous patches.—L. i./87,41.

Sea sickness, relieved by its internal use.—L. i./88, 39; Th. Gaz. 1888, March, 190.

Gonorrhœa, good effects from 2 to 8 per cent. injection.—Nouveaux Remèdes, Dec. 1, 1885.

Notes on its value in gastric and cutaneous diseases.—L. i./88,570.

Pigment of 10 per cent. relieves irritation of tubercle of larynx.— L. i./88,39.

RHAMNI FRANGULÆ CORTEX.

Frangula Bark (*Off*). *Syn.*—BLACK ALDER CORTEX FRANGULÆ.

This bark is imported principally from Holland in quills about half a line thick, with a warty, greyish brown exterior; contains the crystalline principle Emodin, this is also found in rhubarb root. The bark should not be employed medicinally until it is at least one year old, else, it is stated, it produces sickness as well as purging. It possesses tonic, laxative properties, does not cause griping, and does not need the dose increased if habitually taken. It is especially useful in cases of hæmorrhoids.—P.J. 1871,152, P.J. 1874,889.

Extractum Rhamni Frangulæ (*Off*).

Dose.—15 to 60 grains. Is a proof spirit extract.

Extractum Rhamni Frangulæ Liquidum (*Off*). *Dose*—1 to 4 drachms.

The bark is exhausted by boiling with successive quantities of water, the decoctions concentrated, and spirit added, so that one ounce = one ounce of bark.

Trochisci Rhamni Frangulæ are sold as a special preparation under the name of "Aperient Fruit Lozenges."

Dose for an adult.—1 to 1½ or 2 lozenges.

RHAMNI PURSHIANI CORTEX.

Sacred Bark (*Off*). *Syn.*—CASCARA SAGRADA.

The dried bark of *Rhamnus Purshianus.*

Chemical notes on.—P.J. 1888,804.

Cascara Capsules represent half a drachm of Liquid Extract.

Dose.—1, 2, or more. Some contain, in addition, 1 grain Euonymin in each. *Dose.*—1 or 2 at bedtime.

Elixir Cascara Sagrada, B.P.C.

Tincture of Fresh Orange Peel, 2 ounces; Rectified Spirit, 1 ounce; Cinnamon Water, 3 ounces; Syrup, 6 ounces; Liquid Extract of Cascara Sagrada, 8 ounces.

Dose.—15 minims to 2 drachms. Very small doses three times a day are pleasantly laxative. The taste is agreeably disguised.

Extractum Cascaræ Sagradæ (*Off.*).

Dose.—2 to 8 grains in pill.—Is a weak spirituous extract. (*Cascara Sagrada* should be indeclinable.)

Extractum Cascaræ Sagradæ Liquidum (*Off.*).

Dose.—10 to 60 minims. Is prepared as Extractum Rhamni Frangulæ Liquidum.

Extractum Cascara Liquidum Insipidum.

Dose.—10 to 60 minims.

Macerate 1 pound of powdered Cascara Bark with a mixture of 1 ounce Calcined Magnesia and 10 ounces Water, in a percolator, for 12 hours, then add 10 ounces Alcohol (Sp. Gr. 0 820), and when absorbed add Dilute Alcohol (Sp. Gr. 0·928) until the percolate begins to drop. Then close the percolator, and macerate for 24 hours, after which percolate, concentrating the latter portion, and adjust strength so that 1 = 1 of bark. 5 or 10 per cent. of Glycerine may be added to the Alcohol if preferred. Cases in which used.—Pr.xl.435.

Pastils of Cascara each contain 2½ grains of Extract, and are coated with Tolu.

Dose.—1 or 2.

Syrupus Cascara Sagrada, B.P.C.

Liquid Extract of Cascara Sagrada, 4 ounces; Liquid Extract of Liquorice, 3 ounces, Carminative Tincture, 2 drachms; Syrup sufficient to produce one pint. Mix.

Dose.—As an aperient, 1 to 4 drachms; or for children, one-half to a teaspoonful, according to age. As a laxative, very small doses should be taken three times a day.

In obstinate constipation, 20 drops of the liquid extract, 3 times a day, gradually lessened, establishes a habit of regularity; for children smaller doses give good results.—B.M.J. i./83,456.

Acts as a vegetable bitter, increases peristalsis, empties rectum, and is useful for internal piles.—Edin. Med. Jour. 1884,753,845.

Is certainly a good laxative in habitual constipation.—B.M.J. i./84,556.

Cascara Amarga, Picramnia Bark.

A fluid extract of this is said to be tonic, alterative, and antisyphilitic.

RHUS.

Poison Oak. *Syn.*—POISON IVY; RHUS TOXICODENDRON LEAVES.

Tinctura Rhois. *Dose.*—1 to 5 minims or more. (P)

This is generally imported from North America, as it is said to be best prepared from the fresh leaves, collected at sunset and never exposed to the sun. The emanations of the living plant produce an eczematous eruption of the skin. It has been used for rheumatism in chronic cutaneous affections, paraplegia, and incontinence of urine from atony of the bladder.

Emplastrum Rhois in rubber combination, 1 yard rolls, is an imported preparation.

The bark of the root of **Rhus Aromatica, Sweet Sumach,** is said to be pungent, aromatic, astringent, stimulant, diuretic, and tonic; useful in diseases of the urinary organs and atonic diarrhœa. The fruit and bark of the common sumach, *Rhus glabra,* are also used as astringents.

RUMICIN.

Dose.—1 to 4 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Rumex crispus*—yellow dock. Possesses astringent, tonic, and antiscorbutic properties, and is given in scrofulous skin diseases and as a depurative in congested liver and dyspepsia. Yellow dock root contains Chrysophanic Acid.

Tinctura Rumicis.

One of yellow dock root in 10 of proof spirit.

Dose.—1 to 10 minims or more.

SACCHARINUM.

Saccharin. *Syn.*—BENZOYL-SULPHONIC-IMIDE; BENZOIC SULPHINIDE; ANHYDRO-ORTHO-SULPHAMINE-BENZOIC ACID. (It is viewed as an imide, not a true acid.)

Dose.—½ to 2 grains, or more,—*ad libitum* is recommended.

A derivative of toluene, obtained from coal tar; in commerce is found as a white, intensely sweet, and minutely crystalline powder, rather light and flocculent, its dust being easily detected in the atmosphere by its sweet taste. When heated to 200° C., and slightly over, it first fuses and then sublimes (leaving no residue if chemically pure), but is partially decomposed, yielding a white, choking, as well as sweet, vapour. It is only slightly soluble in water, *i.e.*, 1 in 500 volumes (or in one-third the quantity if boiling), in rectified spirit 1 in 35, in proof spirit 1 in 80, in ether 1 in 100, in chloroform 1 in 50, and in glycerine about 1 in 50 It is but slightly soluble in oils and fats,—olive, or cod liver oil does not dissolve one-quarter per cent. of it. Its aqueous solution has an acid reaction; it forms crystalline sweet salts with alkaloids and metallic bases. Solutions of alkalies and their carbonates dissolve it, the latter evolving carbonic anhydride. When fused with potash or soda it is partially converted into salicylic acid, forming corresponding salicylates, which, on testing with perchloride of iron, give the characteristic reaction of these salts. It dissolves in concentrated sulphuric acid, forming a colourless solution, which remains so, even when heated; dissolved in caustic potash solution it should not reduce Fehling's solution, when they are heated together, showing absence of true sugars.

Preparations containing much excess of alkali in conjunction with it, in aqueous solution, are to be avoided, as a mawkish taste is developed which masks its sweetness. In fact, its sweetness, the writer thinks, is purest in its uncombined solutions, not in its saline combinations, and it is most evident when this is somewhat dilute; if tasted in the pure state its sweet flavour is too intense, and that of bitter almonds is slightly developed. The latter may sometimes be detected as an after-taste in the stronger solutions. Saccharin is with difficulty freed from it entirely.

Its sweetening power is variously estimated by some as being 300 times that of sugar, by others as not more than 100 times. 1 in 10,000 of distilled water is quite sweet, and it is possible to detect 1 in 70,000 (a grain in a gallon). Its sweetness in diluted solution much resembles that of sugar. By experiment the writer finds that a mixture of one part of Saccharin dissolved in 50 of rectified spirit, and added to 7,000 of distilled water, is scarcely distinguishable from a mixture of 250 parts of sugar in 7,000 of distilled water with the same amount of spirit added; the taste of the Saccharin mixture is more persistent,—remains longer on the palate than that of the sugar mixture.

Saccharin (about 2 grains of the soluble preparation, or 40 minims of the elixir, in an 8-ounce mixture) disguises the taste of nauseous drugs, such as salicin, salicylate of sodium, cascara, nux vomica, and strychnine, and is used to flavour gluten and cocoanut biscuits for diabetic patients.—B.M.J. ii./87,732; M.P.C. ii./87, 842.

Saccharinum Solubile, Soluble Saccharin, contains about 90 per cent. of Saccharin in combination with soda. In yellowish-white granular, micro-crystalline masses, easily soluble in water and therefore convenient for flavouring purposes.

Dose.—½ to 2 grains or more.

Elixir Saccharini, Elixir of Saccharin. Saccharin 24 grains, Bicarbonate of Sodium 12 grains, Rectified Spirit 1 drachm, Distilled Water 7 drachms. Mix, dissolve, and filter. 20 minims contain 1 grain of Saccharin, sufficient to flavour a 4-ounce mixture.—P.J. 1887, 136.

Tabellæ Saccharini, Saccharin Tablets. Each contains ½ grain of Saccharin, combined with bicarbonate of sodium.

Cocainæ Saccharis. See p. 143.

References.

Saccharin is a harmless drug, valuable as a substitute for sugar in cases of diabetes.—L. i./87,644; L. ii./87, 884. Editorial summary.—B.M.J. ii./87,838.

Sweet taste may become persistent.—B.M.J. i./88, 296.

Report on its action and uses.—Th. Gaz. 1887, 821.

May cause unpleasant symptoms of dyspepsia if given to excess in diabetes.—L. i./88,903.

Given internally to stop decomposition of urine in chronic cystitis.—B.M.J. i./88,1222; L. i./88,1195.

SANGUINARIN.

Dose.—¼ to 1 grain, in a pill with glycerine of tragacanth.

The powdered resinoid of a coffee-brown colour obtained from blood-root *Sanguinaria Canadensis.* In small doses, stimulant and tonic, in larger doses sedative, reducing the pulse, and increasing expectoration; in still larger doses, emetic.

Reference.

On dog, stimulates secretion of bile, which is more watery. Is a decided and powerful cholagogue, overdoses are emetic. B M J. Rep 1878,65, Pr. xxiii.411.

It is undoubtedly emmenagogue and useful in functional amenorrhœa, also useful in dyspepsia and gastro-intestinal catarrh.—B.

SANTONINUM.

Santonin (*Off.*).

Dose.—2 to 6 grains in sugar or milk.

A neutral crystalline principle obtained from Santonica or Cina, the flower-heads of *Artemisia maritima vars. α Stechmanniana* and *β pauciflora.* Santonin is insoluble in water, slightly soluble in alcohol and oils (1 in 100 of castor oil). Also soluble in caustic soda solution; exposed to light it turns yellow. Poisonous properties have been ascribed to it, probably due to impurities. It is a useful anthelmintic for round and thread worms. It colours the urine orange, and in too large a dose may cause objects to appear of a green or yellow colour.

As an anthelmintic is most active administered in an oily solution.—L. i./83,971.

Haustus Santonini et Olei Ricini.

Santonin in powder	4 grains.
Castor Oil	8 drachms.

Mix and emulsify with

Mucilage of Acacia	4 drachms.
Syrup	1 drachm.
Peppermint Water to	1½ ounces.

Taken fasting in the morning makes a dose for a child of 6 to 12 years.

Trochisci Santonini (*Off.*).

These lozenges contain 1 grain in each, with a plain sugar basis; one every night for a few nights should then be followed by an early morning aperient.

Suppositorium Santonini.

Santonin in powder	3 grains.
Oil of Theobroma	*q s.*

To make a suppository. Should be administered every 2nd or 3rd night, for 3 times. Is an efficient anthelmintic, especially for thread worms, which often infest the anus of children, causing them to have disturbed sleep.

References.

Inoperative against tape worm; 2 to 4 grains according to age, with one or more teaspoonfuls of castor oil early in the morning, repeated two or three mornings, seldom fails for thread worms —R.

Peculiar effects on the eyes and sight; does good in iritis, 30 grains distributed into 10 doses, in 5 days.—M.T.G. ii /60,219.

Convulsions in a child produced by 1½ grains.—L. ii./76, 443.

Poisonous symptoms from its depressing effects on the nervous system —B.M J. i./79,322.

For amenorrhœa, dependent on anæmia or chlorosis, 10-grain doses were effectual.—L. ii./85,431.

Valuable in the amenorrhœa of full-blooded women, not in that of anæmic ones. L. i /86,61,132,286.

Atropinæ Santonas. See p. 81.

Sodii Santonas, Santonate of Sodium.

Dose.—5 to 10 grains.

In large colourless rhomboidal crystals, obtained by combination of Santonin with Caustic Soda, soluble 1 in 100 of water, freely soluble in hot glycerine, but separates on cooling; slightly soluble in syrup, has a mawkish, not disagreeable taste; may be administered in aqueous solution flavoured with syrup of orange, or in warm milk.

SAPO VIRIDIS.

Green Soap.

GERMAN.—**Grune Seife. Sapo Kalinus.**

In Germany this term is applied to the common potash or soft soap in commerce. It is generally made with either hemp seed or linseed oil. It differs from the common soft soap of English commerce, which is a potash soap made from fish oils and has a disagreeable odour, which the former is void of. The Green Soap has a pale brownish green colour, and is a useful detergent in some skin diseases. In the German Pharmacopœia, 1882, Sapo Kalinus is directed to be prepared with linseed oil only.

SCILLIPICRIN.

Dose.—?

A principle obtained from *Scilla maritima* the squill bulb. Is an amorphous yellowish white powder, very hygroscopic, and soluble in water— suitable for hypodermic injection. Acts powerfully on the heart, retarding its action, and in toxic doses $\frac{1}{60}$ to $\frac{1}{30}$ grain in the frog—arrests the heart in diastole. B.M.J. ii./79,498; P.J. 1879,1038.

SCILLITOXIN.

Syn.—SCILLAIN.

Dose.—?

A principle from *Scilla maritima* the squill bulb. Is an amorphous cinnamon-brown powder, insoluble in water and ether; soluble in alcohol, this solution has a bitter, burning taste. It is also soluble in aqueous alkaline solutions. The powder is very irritating to the nostrils. It arrests the action of the frog's heart in systole, and is about 8 times as strong a poison as scillipicrin.—B.M.J. ii./79,498; P.J. 1879,1038.

SCUTELLARIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The dried extract of *Scutellaria lateriflora*—mad-dog skull-cap. Is of a greenish brown colour, and is given as a nervous stimulant.

Suggested use in cases of epilepsy, chorea, and insomnia; relieved severe hiccough.—B.M.J.ii./85,1158

SODIUM.

By experiments on the ventricle of the frog's heart it has been proved that, whilst Potassium Salts are very poisonous, Sodium Salts can scarcely be made to kill. By Potassium Salts excitability and contractility are both powerfully affected; by Ammonium Salts excitability practically unaffected, contractility powerfully affected; a wide gap separates Sodium Salts from the last, by these excitability is slightly affected, but contractility suffers chiefly; Potassium Salts, by these experiments, are 14 or 15 times as poisonous as Sodium Salts. The therapeutic importance of these results is obvious. Bromide, iodide, and chlorate of potassium are largely given as medicines; the above would suggest the use of the Sodium Salts in preference. Clinical evidence tends to prove the same by their action on the entire organism, as may be judged by the favour shown of late to the latter salts, especially to Bromide of Sodium.—L. i./82,1033; L. ii./82,736; B.M.J. i./82,942; Pr. xxvii.7.

Sodii Arsenias.- See p. 78.

Sodii Benzoas. See Acidum Benzoicum, p. 20.

Sodii Bromidum (*O//.*).

Dose.—10 to 30 grains or more.

A slightly deliquescent granular white powder, tasting like common salt; soluble 8 in 9 of water. The anhydrous salt only should be used medicinally, it can be crystallized containing 26 per cent. of water. If therapeutically as active as bromide of potassium, Bromide of Sodium is preferable, from its weaker action on the heart.—Pr. xxviii.7; L. ii./82,736; Pr. xxxi. 224, ex Boston Med. and Surg. Journ. cviii. 438.

Use in epilepsy with cardiac complications.—Pr. xxii.81.

A mixture of Bromides in the proportion of bromide of potassium 2, bromide of sodium 2, and bromide of ammonium 1, is said to have a better action than either salt alone.—Erlenmeyer in Brunton.

Elepizone.—A nostrum sold under this name contains approximately bromide of sodium 30 grains, bromide of ammonium 30 grains, bromide of potassium 20 grains, tincture of nux vomica 15 minims, with caramel *q.s.* to 1 ounce of wintergreen water. *Dose.*—1 drachm 4 times a day.

Sodii Chloras. *Dose.*—10 to 30 grains.

In large regular modified tetrahedric crystals, colourless, and has a mawkish, not disagreeable, saline taste, soluble 1 in less than 2 parts of water, and 1 in 34 of rectified spirit. It fuses and deflagrates when exposed to a red heat. For many purposes for which chlorate of potassium is used, this salt is to be preferred. For stomatitis, with ulceration along the edges of the gums, the evidence in its favour is every bit as unequivocal as it is for potassium chlorate.—L. ii./82,736.

Case of poisoning by chlorate of potassium taken instead of the alkali of a seidlitz powder.—L. ii./81,193; B.M.J. ii./81,23.

Gargarisma Chlori, Chlorine Gargle.

Chlorate of Sodium in powder ... 10 grains.
Hydrochloric Acid . ... 30 minims.

Mix in a pint bottle, and let the gas generate and replace the air in the bottle, then cork the bottle, and let it stand for two minutes, lastly add gradually, shaking after each addition,

Distilled Water to... ... .. 1 pint.

Useful as a detergent, and to remove follicular patches. 2 or 3 ounces in a quart jug may be used as an inhalation (cold). Chlorate of potassium may be used in place of the sodium salt, but the latter is less nauseous.

Trochisci Sodii Chloratis (3 grains in each).

Are prepared in two forms, with black currant paste, and with plain sugar. They are much more palatable than chlorate of potassium lozenges, and are quite as beneficial as these in affections of the mouth and throat. —L. ii./82,737.

Sodii Citras. *Dose.*—10 to 60 grains.

Is in small granular crystals, resembling common salt; it is given as a cooling saline, in preference to citrate of potassium.

Sodii Ethylas, Ethylate of Sodium.

A deliquescent caustic salt in white or whitish light pulverulent crystals, prepared by dissolving metallic sodium in Ethylic Alcohol, and concentrating to crystallize.

Liquor Sodii Ethylatis (*Off.*).

Is prepared by dissolving sodium 1 in ethylic alcohol 20, keeping the latter cool by a stream of cold water, has Sp. Gr 0 867.

It may be more conveniently made by mixing and keeping cool while dissolving—

Ethylate of Sodium . . .	1 part, in
Ethylic Alcohol . .	8 fluid parts.

The solution is syrupy, colourless, but darkens to a brown colour, and is recommended as the most manageable and effective of all caustics It is used to destroy nævi and other vascular growths It should be lightly, but effectually applied to the part by means of a pointed glass rod for 2 or 3 successive days, when a scale or scab will form, which should be left until it is loose, and the treatment continued again It is said to cause little or no pain. No water should be allowed to touch the part under treatment —M.T G ii /70,472, L ii /78,625,654; L. i /81,168,242 P J 1878,479,480,485

Lupus, several cases completely cured by it.—Pr. xxxiv 370

Pasta Londinensis, London Paste, T.H.

Caustic Soda and Unslaked Lime of each equal parts, rubbed together in a warm mortar—made into paste when required for use as a caustic It is said to be less painful than **Vienna Paste,** which is Caustic Potash 5, Slaked Lime 6, made into a Paste with spirit.

Sodii Fluo-silicas. Sold as a special preparation under the name of **Salufer.**

A solution has been recommended as a disinfectant, being colourless, non-poisonous, and odourless; also as an antiseptic non-irritating surgical dressing. It is soluble about 1 in 160 of water. It prevents decomposition of animal and vegetable matters, and has been used to preserve food. Suggested as a lotion for use after parturition.—B.M.J.ii./87,1379.

Report upon its antiseptic value; 1 grain in 1 ounce of water is strong enough for a lotion; it is unirritating, and may be used to wash out cavities.—B.M.J.i./88,1054.

Sodii Hippuras.- See p. 21.

Sodium Hypobromite, Solution of.

Caustic Soda	.. ...	100 grammes.
Distilled Water	... ...	250 c.c.

Dissolve, cool, and keep iced while adding *guttatim.*

Bromine	.. . .	25 c.c.

Mix and dissolve. This solution is used to estimate the amount of urea in a given quantity of urine. On adding the solution, nitrogen is evolved from the urea, and is measured in a suitable apparatus, in which each graduation represents 1 per cent. of urea in the urine.—Jour. Chem. Soc. 1874, 749; L.II. 228; L. ii./74,695; L. i./77,559.

It is better to keep the bromine separate, it is therefore supplied in tubes containing 1 and 4 c.c. respectively; 1 c.c. of bromine should be added to 11 c.c. of the solution as required.

Sodii Hypophosphis.—See p. 293.

Sodii Hyposulphis.—*Syn.*—Sodii Thiosulphas. —See Acidum Sulphurosum, p. 52.

Sodii Iodidum (*Off.*). *Dose.*—3 to 20 grains.

A very deliquescent white powder; may be made by decomposing a solution of iodide of iron with carbonate of sodium, filtering and evaporating the filtrate to dryness. Soluble 3 in 2 of water.

Sodii Nitris.

Dose.—2 to 5 increased to 10 grains.—Compressed **Tablets,** weighing 2½ grains each, are prepared.

A white, deliquescent, granular crystalline powder, with a cooling saline taste, soluble 1 in 1 of water; useful in angina pectoris and in epileptiform convulsions. In these has an action similar to nitrite of amyl. - Pr. xxviii.420; Pr. xxx.179,321.

17 cases of epilepsy, in 9 the drug succeeded in controlling the fits, 12 grains the most suitable dose.--L. ii./82,941; B.M.J. ii./82,1095.

In epilepsy, scruple doses, with the same of bromide of potassium, after 8 weeks patient thought himself better.

In another case, scruple doses given alone, it failed.—Pr. xxx.105. (? Impure salt used.)

Its effects in cases of angina pectoris, in dose of 5 to 10 grains, compared with nitrite of amyl and nitro glycerine are said to be more lasting.—Pr. xxx.179,321

To healthy adults doses of 10 and 5 grains are unbearable, and many cannot bear even 3-grain doses.—L. ii./83,766.

In dyspnœa of bronchitis and asthma is preferred to nitrite of amyl or of ethyl, on account of its being more stable.—Intern. Jour Med. Sci. Oct. 1887,393 Feb. 1888,122.

Sodii Permanganas.—See p. 312.

Sodii Phosphas (*Off.*).

Syn.—HYDRIC-DI-SODIC PHOSPHATE; TASTELESS PURGING SALT, PHOSPHATE OF SODIUM.

Dose.—20 grains to 1 ounce, may be given in broth or soup.

Soluble 1 in 5 of water, is very efflorescent, loses 63 per cent. of its weight when heated to dull redness.

Sodii Phosphas Effervescens.

Dose.—1 to 3 drachms.

This forms a convenient and pleasant mode of taking this useful purgative.

Sodii Phosphas Exsiccata.

Dose.—10 grains to 4 drachms in some warm liquid.

Phosphate of sodium is mildly aperient, well suited for a delicate stomach; in small doses it is antacid and diuretic, useful in bilious sick-headache and jaundice.

It acts as a powerful hepatic stimulant and a moderately powerful intestinal stimulant, on the dog.—B.M.J. i./79,177.

For hepatic calculi, 60 grains 3 times a day, recommended with $\frac{1}{10}$ grain arseniate of sodium added, if any evidences of gastric intestinal catarrh are present.—B.

Sodii Salicylas.—See Acidum Salicylicum, p. 46.

Sodii Santonas.—See Santoninum, p. 332.

Sodium Silicate, Solution of.

Syn.—SOLUBLE GLASS, Water Glass.

A viscid solution, of the consistence of treacle, usually containing 10 per cent. of caustic soda and 20 per cent. of silica. Silicate of Sodium solution has a remarkable power in arresting the putrefaction of organic matter.

Diluted solutions have been employed as injections in leucorrhœa, gonorrhœa, uterine ulceration, into the bladder in cystitis, and the nostrils for ozæna. The corresponding potash preparation has been similarly used, also in erysipelas diluted with from 4 to 11 parts of water. The latter, care being taken that it was neutral, has been employed to paint over the affected part with success.—*Pr.* xv 293.

Potassium Silicate, Solution of.

Syn.—SOLUBLE GLASS, Water Glass.

Is less viscid than the last. Both preparations have been employed to impregnate bandages for treating fractures and other surgical cases, in place of starch, but the potassium solution, if nearly neutral, is preferred.

Sodii Sulphas Exsiccata.

Dose.—½ to 2 drachms.

On drying sulphate of sodium (Glauber's salt) it loses about one-half its weight (the water of crystallization), leaving the anhydrous salt a preparation which is much more convenient for use in dispensing, especially in powders. The Epsom salt, although a more active aperient than Glauber's salt, does not stimulate the liver like the latter, and is not nearly so agreeable to take. In weak solution these salines act much more efficiently. —P. xvii. 241.

Sulphate of sodium exhibits no poisonous action when injected into the circulation, but sulphate of magnesium when so injected acts as a powerful toxic agent, paralysing first the respiration and afterwards the heart. Neither purge when injected into the blood or subcutaneously.—B.M.J. i./85,1161

Glauber's salt is most pleasant to take, in the form of

Sodii Sulphas Effervescens, Granular Effervescent Sulphate of Sodium.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast; it produces as a rule *one* efficient evacuation.

An agreeable and palatable aperient introduced by the writer, stimulating both the liver and bowel without causing depression. Its action resembles that of Carlsbad Water. It is suitable for travellers, being portable, and stable in composition.—L. ii./79,879; B.M.J. i./80,21.

Sodio-Magnesii Sulphas Effervescens, Granular Effervescent Sodio-Magnesian Aperient.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast.

An agreeable and efficient aperient introduced by the writer. The Sulphates of Sodium and Magnesium combined resemble Hunyadi Janos and Pullna waters; also Friedrichshall, if a little common salt be added to each dose. This preparation is palatable, stable in composition, and convenient to use when travelling.

⁂ The activity and palatability of the two last preparations may be increased, especially in winter, if taken in warm water. The combination of the two salts makes a more active purgative, but the effervescent sulphate of sodium alone is more pleasant to take.

Sal Carolinum Factitium, P.G., Artificial Carlsbad Salt.

Dose.—20 to 60 grains, in a tumbler of warm water. Dried Sulphate of Sodium, 44; Sulphate of Potassium 2; Chloride of Sodium, 18; Bicarbonate of Sodium 36; all in fine powder. Mix. 53 grains to 1 pint of water is similar to Carlsbad Water.

Pulvis Seidlitz, Seidlitz Powders, have

Tartarated Soda (Rochelle Salt)	120 grains
Bicarbonate of Sodium … …	40 grains

In the blue paper.

Tartaric Acid … … … . .	36 grains

In the white paper.

Sodii Sulphis. See Acidum Sulphurosum, p. 52.

Sodii Sulphocarbolas. See Acidum Carbolicum, p. 32.

Sodii Sulpho-Ichthyolas.—See p 219.

Sodii Sulpho-vinas, Sulphovinate of Sodium.

Syn.—SULPHETHYLATE OR ETHYLSULPHATE OF SODIUM.

Dose.—¼ to 1 ounce is a tasteless aperient, and does not cause colic. The salt is in efflorescent colourless crystals.

Sodii Taurocholas, Taurocholate of Sodium.

Dose.—2 to 6 grains, in pill, which should be keratin-coated to prevent solution until it reaches the bowels. A white or whitish amorphous powder, prepared from pig's bile. Should be free from glycocholate of sodium, with which it is naturally associated. It has been recommended for gouty obesity and dyspepsia.—L. i./85, 745,917.

SPHAGNUM.

Turf-Moss, Bog-Moss, *Sphagnum, sp. var.*

This, when dried, on account of its elasticity and great capability of sucking up or imbibing liquids, forms a useful dressing for absorbing the discharge from open wounds, and especially urinary discharge in bladder, kidney, and dropsical affections. It is antiputrescent, and may be made thoroughly antiseptic by being sprayed with sublimate solution before use. It is sold in compressed sheets, like cardboard, which absorb eight times their weight of water, and when disintegrated, may be formed into pillows or pads by enclosure in muslin bags. —P.J. 1884,591; B.M.J. ii./87,829.

Staphisagriæ Semina (*Off.*). See p 166.

STILLINGIA, U.S.

The root of *Stillingia sylvatica*, queen's root, queen's delight, is used medicinally in America. Contains an alkaloid Stillingine (not to be confounded with Stillingin, *see* below). In large doses it is emetic and cathartic, in small doses alterative, used for scrofula, syphilis, jaundice, dropsy depending on liver disease, and for piles.

Extractum Stillingiæ Fluidum, U.S.

Dose.—15 to 60 minims, one part = 1 of root.

Liquor Stillingiæ Compositus, McDade's Succus Alterans.

A remedy for syphilis, consists of fld. ext. Smilax Sarsaparilla, fld. ext. Stillingia, fld. ext. Lappa Minor (burdock), fld. ext. Phytolacca, of each 2 oz, tincture of Xanthoxylum Carolinianum (prickly ash), 1 oz.; a teaspoonful increased to a tablespoonful three times a day before meals.—B.M.J. i./83,449; B.M.J. ii./87,655.

Stillingin. The chocolate brown powdered extractive.

Dose.—1 to 3 grains in a pill.

STROPHANTHUS.

Strophanthus hispidus (*S. Kombé*, Oliver).

The seeds of an apocynaceous plant, from which is prepared the Kombé arrow poison, used in various parts of Africa, in the Manganja country near the Zambesi, in Guinea, in Senegambia, and in the Gaboon district, where it is called Inée, Onaye, or Onage. They are often imported in scimitar-shaped pods, containing numerous seeds, each of which has a compressed comose appendage attached to the apex, resembling that of taraxacum, but much longer. For the sake of uniformity, the seeds alone should be used for making the galenical preparations, but all parts of the fruit are poisonous. The seeds of one variety, imported from the Niger, and said to be from *S. hispidus*, are brown, with a pointed apex, and short velvety hairs, and are smaller than those from the Nyanza district, supposed to be from *S. Kombé*. These are large seeds, of a bluish-or brownish-green colour, have a blunt apex, and are covered with white silky hairs. Two crystalline principles have been isolated from the seed, Strophanthin and Inein. **Strophanthin** is a white micro-crystalline glucoside, freely soluble in water, allied in its physiological and therapeutical action to digitalin. Injected under the skin of a frog, it stops the action of the heart, with the ventricle pale and contracted, whilst the auricles are dark and distended, it seems to act directly on the cardiac muscular fibre. It is a cardiac tonic and diuretic. *Dose, hypodermically*—$\frac{1}{120}$ to $\frac{1}{60}$ grain.—P.J. 1873,528; 1877,526, B.M.J. ii./85,263,904; L. ii./85,309.

Tinctura Strophanthi, B.P.C.

Strophanthus Seeds, reduced to No. 30 powder, and dried at 110° F., 1 ounce.

Pack in a percolator, and moisten with pure ether (Sp. Gr. 0 720) Macerate for 24 hours, then percolate, adding ether until the fluid passes through colourless. Remove the marc from the percolator, and dry it, gradually heating it to 120° F. Again reduce it to powder, repack in the percolator, and moisten with rectified spirit. Macerate for 48 hours, then percolate slowly with rectified spirit to produce 1 pint.

Dose.—2 to 10 minims.

In aqueous mixture, preparations of Strophanthus are said to rapidly undergo decomposition. The tincture should therefore be prescribed in combination with chloroform water or spirit.—P.J. 1886,411,508; B.M.J. i./87,151.

Pilula Strophanthi = 2 minims of Tincture, combined with sugar of milk. *Dose.* 1 to 5.

Tabellæ Strophanthi, each equal to 2 minims of Tincture, combined with chocolate. *Dose.* 1 to 5.

This drug is a powerful heart tonic and diuretic, replacing digitalis in many cases, and its effects are found to be non-cumulative.

Essays on the chemistry and uses, by Fraser —B.M.J. ii./87,171. Essay and discussion.—B.M.J. ii./85,904.

A valuable cardiac tonic, succeeding after digitalis has failed.—L. ii./87,513.

Uncertain in action, and inferior to digitalis B.M.J. ii./87,1100,1184, L. ii./87,319

Effects are not cumulative, is a valuable diuretic, and can replace digitalis.—L. ii./87,644,964

One of the most powerful cardiac tonics we possess.—L. ii./87,202.

Is of special value in the cardiac failure of prolonged typhoid fever.—L. ii./87,201,319,605.

Produces intermittence of pulse in some cases; this, however, passes off with *increase* of dose —B.M.J. i./88, 132.

Beneficial in heart weakness and failure of a functional nature.—B.M.J. i./88,901.

STRYCHNINA (*Off.*).
Strychnine.

Dose.—$\frac{1}{60}$ or less to $\frac{1}{12}$ grain, in solution or in pill, triturated with sugar of milk and glycerine of tragacanth *q.s.*

The alkaloid obtained from Nux Vomica, St. Ignatius' beans (see p. 264), and the seeds of other species of *Strychnos*. In right square octahedrous or prisms, colourless and inodorous. Amorphous Strychnine should not be used, as it is more liable to contain, as an impurity, Brucine (also contained in *Nux Vomica*). Pure Strychnine should not be coloured by strong nitric acid, indicating an absence of Brucine. It is very slightly soluble in water, about 1 in 6,000, about 1 in 100 of proof spirit, soluble also in chloroform, but insoluble in absolute alcohol and ether. Its salts are more soluble, and acids render the alkaloid more soluble in water. It is very poisonous; it affects the spinal cord by producing convulsions resembling those of tetanus. Its properties are so well known as not to need further description here.

It is antagonistic to calabar bean and its preparations, yet not in the sense that the administration of the one can save life after the administration of a fatal dose of the other, as chloral may in Strychnine poisoning.—B.M.J. ii./74,805.

In addition to the **Liquor Strychninæ Hydrochloratis**, containing 1 per cent. of strychnine, or 4½ grains in the ounce (of water 6 drachms, rectified spirit 2 drachms, with diluted hydrochloric acid 7 minims)—*dose*, 5 to 10 minims—the following salts and non-official preparations are in use:—

Ferri et Strychninæ Citras.

Dose.—3 to 8 grains in aqueous solution.

In scales of a greenish golden colour resembling citrate of iron and quinine, freely soluble in cold water. It contains 1 per cent. of Strychnine. Some makers of this preparation send it out dark brown in colour, resembling citrate of iron and ammonia; it then contains only the Ferric Citrate with Ammonia, and with this preparation it is difficult to distribute the Strychnine uniformly, as it is apt to crystallize out of the concentrated liquor before "scaling."

Ferri, Quininæ et Strychninæ Citras.

Dose.—3 to 10 grains.

This is in scales of a greyish-golden colour like the former preparation, but in addition to 1 per cent. of Strychnine it contains 16 per cent. of Quinine.

Strychninæ Acetas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In small colourless acicular crystals, soluble 1 in 80 of water.

Strychninæ Arsenias, Arseniate of Strychnine. *Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain

In small white acicular crystals, soluble about 1 in 80 of water.

Strychninæ Hydrobromas, Hydrobromate of Strychnine. *Dose.*—$\frac{1}{30}$ to $\frac{1}{12}$ grain.

In minute white crystals, soluble about 1 in 60 of water.

Strychninæ Nitras. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In hard colourless needles, soluble 1 in 70 of water.

Injectio Strychninæ Nitratis Hypodermica.

Nitrate of Strychnine ...	2 grains.
Glycerine	50 minims.
Distilled Water	50 minims.

Heat gently till dissolved.

Dose.—1 to 4 minims.

In nocturnal incontinence of urine used with good results.—Pr. xxxiii.376.

In amaurosis used with powerful curative effects.—M.T.G. i./71,76,431.

In gastralgia, no such remedy as this, also recommended to relieve pain of cardialgia and gastrodynia.—Anstie in R.

Strychninæ Sulphas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

The neutral salt is in prismatic crystals, soluble about 1 in 80 of water.

Strychninæ Sulphas Acida.

Dose.—$\frac{1}{20}$ to $\frac{1}{10}$ grain.

In white silky acicular crystals with a slightly acid reaction, soluble 1 in 36 of water. This salt is best adapted for hypodermic injection.

Injectio Strychninæ Sulphatis Hypodermica.

Acid Sulphate of Strychnine	1 grain.
Distilled Water	40 minims.

Dose.—1 to 3 minims.

Hypodermic Lamels of Strychnine contain $\frac{1}{60}$ grain.

Bromide of Potassium 15 to 20 grains an antidote to Strychnine poisoning (Pr. xxiv.210). The dose of bromide should be at least 4 drachms and repeated in 2-drachm doses every quarter of an hour. Murrell on Poisons.

Poisoning by three quarters of a grain successfully treated by one drachm of hydrate of chloral with half an ounce of bromide of potassium and an ounce afterwards given in divided doses.—L. i /81,52.

Stimulates the respiratory centres and is useful in embarrassed breathing.--Trans. Med. Congress, 1881, i.458.

Paraldehyde is antagonistic to Strychnine.—M.P.C. i./84,232.

[illegible]

[illegible] L. i./88,842. [illegible]

Produces healthy sleep in cases of insomnia from worry.—Pr. xl. 28.

Is of immense value in obviating and controlling post partum hæmorrhage —B M J. ii /85,918,1059; i/86, [illegible].

Combined with acetic acid has even more power over the uterus —B M.J. i /88,743

Sulphonal.—See p 113

SULPHUR.

Dose.—20 to 60 grains in milk, treacle, with confection of senna, or as Pulvis Glycyrrhizæ Compositus (p 261).

This is official as **Precipitated Sulphur** and **Sublimed Sulphur.** From the latter is prepared Confectio Sulphuris Sulphur 4, Acid Tartrate of Potassium 1, Syrup of Orange-peel 4, Tragacanth $\frac{1}{18}$—*dose*, 1 or 2 drachms; and Unguentum Sulphuris 1 to 4 of Benzoated Lard; it is also used for making the two following ointments, but **Precipitated Sulphur** in all these preparations, for use either internally or externally, being free from grittiness, is much to be preferred: it is in fine powder if genuine, sublimes without residue, and has not the glistening appearance of the old lac sulphuris (due to the presence of sulphate of calcium)

Trochisci Sulphuris Compositi (Garrod).

Contain Precipitated Sulphur 5 grains, Acid Tartrate of Potassium 1 grain, with Tincture of Orange Peel q.s. *Dose* —1, 2, or more

Unguentum Sulphuris c. Hydrargyro, U.C.H.

Sublimed Sulphur .	30 grains.
Ammoniated Mercury	5 grains.
Olive oil . . .	8 minims.
Lard	8 drachms.

To this may be added, to disguise its colour or odour, or increase its activity, either 2 grains of vermilion, 10 minims of eucalyptus oil, 10 grains of carbolic acid, or 5 minims of creasote Useful in scabies and allied skin diseases of doubtful diagnosis.

[illegible]

Sublimed Sulphur ... 1 drachm.
Essential Oil of Almonds ... 10 minims.
Prepared Lard ... ... 7 drachms.
Mix, and add with quick manipulation
Chloride of Sulphur (Liquid) 8 minims.

Keep in a stoppered bottle; is sometimes made double the strength, i.e., with half the quantity of basis. Useful in [illegible], psoriasis, and scabies.

Unguentum Sulphuris Iodidi (*Off.*). Has 30 grains to hard paraffin ¼ ounce and soft paraffin ¾ ounce; it mixes more readily if the iodide be first triturated with a little spirit, is useful for acne.

Sulphuretted Hydrogen treatment of Phthisis.

Bergeon and Cornil have introduced this plan of injecting into the rectum carbonic acid gas which has been passed through sulphuretted water, it is readily absorbed, and is exhaled by the pulmonary and bronchial surfaces, and there comes into contact with the organisms of phthisis. It is claimed that the direct effects are, lessened cough, improved sputa, cessation of sweating, increased dryness of rales, and general improvement of condition.—Y B 1886,30, 1888,29, Th Gaz 1887,217, 723; L.i./87,761, ii/87,11,228 605; B.M.J.ii./86, 1049; i./87,93,683, ii./87,843, Birm Med Rev. 1888, May, 212.

TABLETS, COMPRESSED,

Are prepared of a lenticular shape as follows —

Ammonium Bromide .	5	grs.	in each.
Ammonium Chloride	3	,,	,,
{ Ammonium Chloride .	2½ }	,,	,,
{ Borax . . .	2½ }		
Antipyrin .	5	,,	,,
Lithium Citrate	5	,,	,,
Peptonic (pepsin and pancreatin)			
Potassium Bicarbonate ..	5	,,	,,
Potassium Bromide	5	,,	,,
Potassium Bromide ...	10	,,	,,
Potassium Chlorate	5	,,	,,
Potassium Chlorate (effervescing)	3	,,	,,
{ Potassium Chlorate	3½ }	,,	,,
{ Ammonium Chloride	1½ }		

Potassium Chlorate	2½	grs. in each.
Borax	2½	
Potassium Iodide	5	" "
Saccharin	½	" "
Sodium Bicarbonate	5	" "
Sodium Bromide	5	" "
Sodium Nitrite...	2½	" "

Soda-Mint, or Neutralising Tablets.

Sodium Bicarbonate	4	" "
Ammonium Carbonate... ...	¼	
Oil of Peppermint	⅙	

Voice Tablets.

Potassium Chlorate	
Borax	
Cocaine	

TEREBENA PURA.

Pure Terebene.

Dose.— 5 to 30 minims.

An isomer of oil of turpentine produced by the action of sulphuric acid (oil of vitriol) on the latter, and distillation. Chemically, it is not a simple body, but consists of camphene, cymene, borneol, and terpilene; the last substance possesses the most active, or rather toxic, properties. Is colourless, and has a very agreeable odour resembling fresh-sawn pine wood. It is not miscible with water, but may be emulsified by mixing it with one-sixth its weight of tragacanth powder, then adding water and shaking well. It is a powerful yet agreeable antiseptic, disinfectant, and deodoriser.

Vapor Terebenæ, T.H.

Terebene, pure	40 minims.
Light Carbonate of Magnesium	20 grains.
Distilled water ... to	1 ounce.

A teaspoonful in a pint of water at 140° for a stimulant inhalation. For medicating the antiseptic respirators, 10 drops of a mixture of equal parts, Terebene, carbolic acid, and spirit of chloroform, is often used.

A dark-coloured liquid, with an odour resembling but not so agreeable as the above, is sold as a disinfectant, under the name of Terebene, and must be distinguished from the pure chemical bearing this name as above described; it is a useful deodoriser, but, being insoluble in water, does not permeate decomposing substances.

The vapour of Terebene is a useful sedative and antiseptic inhalation in phthisis, and, administered internally at the same time in 5-minim doses, it destroys the virus of swallowed sputa, and lessens the risk of intestinal infection;' useful also in dysentery.—B.M.J. ii./81,666.

Recommended for medicating the cotton wool of respirator for dry antiseptic inhalation in phthisis.—B.M.J. ii./82,7; Pr. xxix.94.

May produce renal irritation.—B.M.J.ii./86,195.

Drowsiness and giddiness may be produced.—B.M.J. ii./86,16.

For winter cough, drops taken on sugar, and inhaled.—B.M.J.ii./85,1103,1184.

Report of an Investigation Committee.—B.M.J. i./87,795.

Terpin-Hydrate. *Syn.*—TERPENE HYDRATE; **Hydrate of Oil of Turpentine.**

Dose.—2 to 6 grains or more.

A derivative of oil of turpentine in prismatic crystals, resembling those of hydrate of chloral, soluble in water about 1 in 200, more so if heated, soluble 1 in 20 of alcohol, and about 1 in 6 in oils. Has the odour of terebene, and has been used with success in bronchitis, chronic and subacute; it assists expectoration in catarrhal affections.—M.T.G.ii./84,768; L. ii./85,404. Is also a diuretic.—L.i./88,464.

Small doses loosen phlegm, large ones check expectoration and hæmoptysis: give it before meals.—B.M.J. i./86,85,221,418.

Terpinol, an agreeable aromatic liquid, is obtained by the action of dilute hydrochloric or sulphuric acid on terpin.

Summary of results, if it disorder the stomach, give it during meals.—Th.Gaz.Dec.1887,829.

TEREBINTHINA CHIA.

Chian Turpentine, P.L.

Dose.—5 to 10 grains.

An oleo-resin flowing from the incised trunk of *Pistacia Terebinthus;* obtained from Chio. The use of this drug, which had fallen into desuetude, was, in 1880, revived as a remedy for cancer of the female generative organs. In commerce it is often factitious. The genuine drug has a very firm honey-like consistence, yet is slightly brittle, and becomes more so with age and exposure to the air. It is translucent, small pieces appear yellow or brownish-yellow, but in mass it has a greenish-brown colour. It has, when fresh, a distinctive odour, slightly like the pinaceous turpentines, but much more agreeable and aromatic, resembling citron and jasmine, or, according to Pereira and Guibourt, more like fennel; but there is always a background smell like that of mastiche, which becomes more developed and distinct with age, when it has lost the volatile portion, the essential oil. Its taste resembles that of mastiche; it is agreeable and free from the bitterness and acridity of the pinaceous turpentines.—P.J. 1880, 854,271.

Mistura Terebinthinæ Chiæ.

Ethereal Solution of Chian Turpentine (1oz. in 2 fl. oz. Pure Ether)	15 minims.
Mucilage of Acacia ...	2 drachms.
Syrup	30 minims.
Sublimed Sulphur	2½ grains.
Distilled Water to	1 ounce.

Dose.—One ounce three times daily.—L. i./80,478; P.J. 1880,854.

Mistura Terebinthinæ Chiæ sine Sulphure.

Gum Acacia	11 ounces.
Water	2 pounds.

Dissolve, and add gradually with agitation.

Solution of Chian Turpentine (see below)...	12 ounces.
Spirit of Chloroform	½ ounce.
Water to	4 pounds.

Dose.—At first, 3 drachms daily, in divided doses, after food; gradually increased to 9 drachms daily.

Mistura Terebinthinæ Chiæ cum Resorcin.

Chian Turpentine Mixture (as last)	8 ounces.
Resorcin	2 drachms.

Dose.—Two teaspoonfuls, increased, three times daily. —L. ii./86,720.

Pilula Terebinthinæ Chiæ.

Chian Turpentine	3 grains.
Sublimed Sulphur	2 grains.

Make 1 pill: dose, 2 every 4 hours. Lycopodium may be added to preserve their shape.

Pilula Terebinthinæ et Zinci, L.H.

Chian Turpentine	4 grains.
Sulphate of Zinc	1 grain.

Make 1 pill: dose, 1 to 3 pills.

Solutio Terebinthinæ Chiæ.

Chian Turpentine	16 ounces.
Alcohol	8 ounces.
Ether	8 ounces.

Dissolve.

Cases of cancer of the female generative organs successfully treated by Chian turpentine L. i./80,477; Pr. xxv.45; L. ii./81,1033.

Correspondence on above.- L. i./80,582; L. ii./80, 533,955; L. i./81,155.

Summary of correspondence. M.R 1880,446.

Its failure in the treatment of cancer. L. i./80,1019, L. ii./81,1155; L. ii./80,895.

Pharmaceutical preparations of P.J. 1880,854.

Letter on production of.—L. ii./80,588; P.J. 1880,271.

Sarcoma, case of, benefited by. - L. i /82,866.

Beneficial effect in cases of cancer of mouth and tongue.-- B.M.J. i./88,895.

TEST SOLUTIONS.

Fehling's Solution (modified by the writer)

No. 1.

Sulphate of Copper	181 grains.
Distilled Water to	6 ounces.

Dissolve.

No. 2.

Tartrate of Potassium, neutral	728 grains.
Caustic Soda	360 grains.
Distilled Water to	6 ounces.

Dissolve. Of a mixture of these two solutions in equal volumes, 10 c.c. will be decolorised and reduced by 0·05 gramme (or 53 minims = ¾ grain) of glucose or diabetic sugar in solution, with precipitation of yellowish red cuprous oxide, when the two are boiled together. No. 2 solution should not be kept in a very cold place, else it will crystallize. By keeping the copper solution separate from the alkaline solution the test is prevented from becoming erroneously sensitive.*

Cupric Pellets,—the salts of Fehling's solution are prepared compressed into tablets.

Glass Capsules, containing about 1 c.c. of Fehling's Solution, are also prepared.—L. ii./80,192

Papers impregnated with **Indigo-Carmine, Sulph-indigotate of Sodium,** are also prepared for testing urine for sugar, they can be had for qualitative testing or for quantitative estimation.—L. i./83,858,928,1021.

Phenyl-hydrazine Hydrochlorate is also used as a test for sugar. It is in colourless, shining, crystalline scales; and should be free from azo-compounds. A small quantity is warmed with twice its weight of sodium acetate in solution, an equal volume of the suspected solution added, and boiled for 20 minutes. On cooling, yellow crystals of phenyl-glucosazine are deposited if sugar be present.—B.M.J. i./87,469.

Albumen Tests :—

Acidulated Brine Test.

Diluted Hydrochloric Acid ..	1 ounce.
Water	19 ounces.
Common Salt	3 pounds or *q.s.*

To saturate. An equal volume of this solution is carefully added to the suspected urine contained in a test-tube held aslant. If albumen be present, a white cloudy zone appears at the junction of the two fluids. The precipitate is not insoluble, but is redissolved by dilution with water, or even with the albuminous urine itself.—L. ii./82,613.

Ferrocyanic Acid Test Pellets.

Yellow Prussiate of Potassium and Acetic or Citric Acid mixed in solution set free Hydroferrocyanic Acid.

***Ammoniated Cupric Test** (Pavy).

Tartarated Soda, and Caustic Potash, of each	178 grains.
Distilled water	*q.s.*
Dissolve and add in aqueous solution	
Sulphate of Copper	36½ grains.
When cold add	
Strong solution of Ammonia, sp. gr. 0·88 ...	6 ounces.
Distilled Water ... ... to	1 pint.

This solution is not hyper-sensitive, ammonia is a solvent for the suboxide of copper, yet it does not interfere with the reduction of the oxide in sugar testing. 10 c.c. of the solution further diluted are kept boiling in a flask, air being excluded, while the urine *q.s.* is added to discharge the colour, a table shows the amount per 1,000 it will contain.—L. i./84,376

On the addition of such a solution to urine, it gives, without heat even, a distinct opalescence if a small, and a dense white precipitate if a large, quantity of albumen be present. Pellets are made of citric acid and also of ferrocyanide of potassium to be portable. In about a drachm of urine, in a test tube, an acid pellet is first dissolved, next a ferrocyanide pellet is added and allowed to dissolve (without heat); if albumen is present a precipitate will immediately appear. This test does not precipitate peptones.—L. ii./82,823; L. i./83,191; B.M.J. i./83,308.

Iodomercurate of Potassium Solution, for volumetric estimation of albumen.

Iodide of Potassium	3·22 grammes.
Perchloride of Mercury ...	1·35 grammes.
Distilled water ...	to 100 c.c.

Confirmatory Solution.

Perchloride of Mercury ...	1 gramme.
Distilled water	100 c.c.

To 10 c.c. of urine add two drops of acetic acid, and the volumetric solution, drop by drop, stirring after each addition, counting the drops, until the urine is apparently unaffected by the test; now, after adding each drop of the test, put a drop of the urine being tested on a white porcelain dish and watch if a yellowish red colour appears on adding a minute drop of the Confirmatory Solution; as soon as it does, the albumen in the urine is exhausted. Each drop of test used (*minus* 3 for excess) represents 0·5 gramme of albumen per litre in the urine under examination. The test should be added from a pipette, delivering drops 5 centigrammes each.—L. ii./82, 614; L. i./83,139.

Millon's Reagent. — **Nitroso - Nitrate of Mercury**). Mercury 10; Nitric Acid (Sp. Gr. 1·185), 25 by weight; Water 25 Dissolve in a flask at lukewarm heat shaking often, and add to a solution formed by dissolving Mercury 10, in Nitric Acid (Sp. Gr. 1·25 to 1·3) 22 by weight without artificial heat. With albumen or urea this gives a yellow, then red coloration on heating.

Peptone Test for Bile.

Peptone, in powder ...	30 grains.
Salicylic Acid	4 grains.
Acetic Acid	30 minims.
Distilled Water	8 ounces.

Dissolve and filter till bright. On adding 20 minims of urine containing bile salts to 60 minims of this solution, an opalescence appears in proportion to the amount of bile constituents; it dissolves completely on adding acetic or citric acid, and diminishes, but does not disappear, on boiling.—L. i./85,741.

Picric Acid Solution, Saturated Picric Acid.

The solution is carefully poured upon the urine contained in a test tube, and when this is held aslant an opalescent coagulated albuminous precipitate forms immediately between the yellow test solution at the top and the urine below, if albumen be present. It has also been suggested as a test for sugar in urine, as solution of glucose, if boiled with picric acid and solution of potash, reduces the yellow picric acid to deep red picramic acid, forming picramate of potassium, the depth of colour depending on the amount of sugar present.—L. ii./82,737,869,898,959,1002,1053,1095; L. i./83,161,454; B.M.J. i./83,505; B.M.J. ii./84,690, 1314; L. ii./84,1083.

The administration of alkaloids may cause urine to give a precipitate with picric acid, but this is redissolved on heating to the boiling point.—B.M.J. i./84,103,219.

Test Papers are prepared for testing urine for albumen impregnated with Peptone, Potassio-Mercuric Iodide, Potassium Ferrocyanide, Potassio-Mercuric-Iodo-Cyanide, and Sodium Tungstate; and compound papers impregnated respectively with Picric Acid combined with Citric Acid, Sodium-Tungstate with Citric Acid, and Potassio-Mercuric Iodide with Citric Acid. (The last can be had for qualitative testing, and for quantitative estimation by a comparative opacity method.)—L. i./83,139,190; Pr. xxxii,91.

Nessler's Reagent for **Ammonia** (*Off.*). *Syn* —SOLUTION OF POTASSIO-MERCURIC IODIDE.

Iodide of Potassium	...	270 grains.
Perchloride of Mercury	...	*q.s.*
Distilled Water ...	...	1 pint.

Dissolve the iodide of potassium and 100 grains o the perchloride of mercury in 15 ounces of boilin distilled water. To this add more of the perchloride i solution until the precipitate no longer disappears o well stirring, and a slight permanent precipitate remains Then add Caustic Soda ... ... 2 ounces.

Dissolve, add a little more perchloride solution, shake, allow to settle, and when cold, dilute with

Distilled water to ... ... 1 pint.

On the addition of this test to ammonia or an ammonium salt in solution, it lets fall a brown precipitate of Dimercuric-ammonium Iodide.

Mayer's Reagent for **Alkaloids**, gives a white precipitate.

Perchloride of Mercury, 13·546 grammes; Iodide of Potassium, 49·8 grammes; Distilled Water to 1 litre.

Phenol-phthaleïn (*Off.*), a combination of phenol with a benzene derivative, in yellowish granular crystals. This forms

Tincture of Phenol-phthaleïn (*Off.*).

One part in proof spirit 500 parts by weight; is a colourless solution, but is turned to a purple red colour if added to a liquid containing an excess of alkali. This, again, is immediately decolorised by an excess of acid. It is not suited for ammonia estimation.

Tropæoline OO, and Methyl-Orange (Sulpho-benzene-azo-dimethylamine) have also been suggested as tests for the presence of free acids. They form yellow solutions; the colour of the solution of the former is changed to crimson by acids, that of the latter to pink, but no change of colour is produced either by carbonic acid, acid carbonates, or solutions of metallic salts. Chem. News, ii./81,288; i./83,123; P.J. 1882,273.

Congo Red. An aniline colour prepared from tetra-azo-diphenylchloride and naphthionic acid. Is turned blue by acids, and red by alkalies (reverse of litmus).

Congo Paper is prepared by impregnating paper with a solution of Congo Red, 1 part, in 10,000 parts of a mixture of Alcohol 3, Water 1. It is not very sensitive, but may be used in cases in which results obtained with litmus remain doubtful, on account of the specific colour of the liquid. Has been used to indicate absence of Hydrochloric Acid in the stomach in cases of cancer; as weak lactic acid does not affect its colour. —B.M.J. ii./88,806.

Sodium Hypobromite, Solution of, see p. 337.

Sonstadt's Solution for Testing Gems.

Red Iodide of Mercury	... 3720	grains.
Iodide of Potassium	... 2830	grains.
Distilled Water ...	...	15½ drachms.

Dissolve and filter. Has Sp. Gr. 3. Used to test the specific gravity of gems. Quartz and Rock Crystal float in it, Diamond Sp. Gr. 3·5, Topaz Sp. Gr. about 3·5 and Zircon Sp. Gr. 4· to 4·75, sink in it. Phœnakite Sp. Gr. 3· is suspended in it. A solution having Sp. Gr. 3·36 may be made by using Iodide of Sodium in place of Iodide of Potassium.

THAPSIA.

The root of *Thapsia garganica*, an umbelliferous plant grown in Algeria (allied to the Silphion of the ancients); when exhausted with spirit yields a resin which is employed in the French Codex to form a rubefacient plaster, Emplastrum Thapsiæ; Fr. Sparadrap de Thapsia, Emplâtre Révulsif de Thapsia.

Theina.—See Caffeina, p. 95.

THEOBROMINA.

Theobromine.

Dose.—1 to 5 grains.

An organic base existing in cacao seeds,—*Theobroma Cacao*. It is a white crystalline powder, sparingly solubl in water, alcohol and ether. It is allied to Caffeine being chemically viewed as dimethyl-xanthine, an Caffeine as trimethyl-xanthine.—See Caffeine, p. 95.

THUJA.

Arbor Vitæ.

From the young shoots of *Thuja occidentalis* tincture is prepared equal in strength to one of the drie tops in 10 of 20 O.P. spirit.

Dose.—2 to 5 minims.

Like savin, Thuja has an irritating action on the skin and has been employed to remove warts and fungoi granulations from ulcers; internally for amenorrhœ pulmonary catarrh, and worms.—Rep. Pharmacie, 188 374.

THYMOL.

Thymol (*Off.*).

Dose.—½ to 2 grains or more, in pills with powdered soap and a trace of spirit, or in oily or aqueous solution.

A stearoptene contained in oil of thyme, *Thymus vulgaris*, but principally obtained from the oil of the fruit of *Ptychotis Ajowan*. In large transparent rhomboidal crystals melting at 111° F. and having the odour of thyme, an aromatic peppery taste, is caustic to the skin and very irritating to the mouth and mucous membrane generally. Soluble 1 in 800 of water, soluble in fats and oils, and freely so in alcohol, ether, acetic acid, and caustic alkaline solutions. Thymol has been synthetically prepared from Cuminol, a constituent of oil of cumin. Thymol rubbed with an equal weight of Menthol forms an oily liquid (see Menthol); with 3 parts of Thymol and 2 Chloral Hydrate, equal parts of Thymol and Camphor, and equal parts of Thymol and Carbolic Acid, similar liquefactions take place.

Thymol is a powerful antiseptic and antiputrefactive; its preparations have been much used, like carbolic acid, for surgical dressings.

Liquor Thymol.

One part of Thymol dissolved in 800 of warm water forms an agreeable antiseptic lotion and disinfectant for the sick room, suitable for spraying into the air or sprinkling on the floor.

Ophthalmic discs of Thymol contain $\frac{1}{1000}$ grain, combined with gelatine.

Volckmann's Thymol Solution.

Thymol 1; Alcohol 20; Glycerine 20. Dissolve and add to Water 1,000.

Used as a spray and antiseptic lotion; does not produce eczema as carbolic lotion does.—Br. ii./79,xlviii.. Pr. xvii.203.

Soaps of Thymol are prepared for toilet use, containing about 1 in 1000: if used of this strength to the face the Thymol is irritating to the conjunctiva

Spiritus Thymol.—*Dose*, 3 to 15 minims.

Thymol 1, Rectified Spirit, *q.s.* to 10; is convenient for dispensing, and for medicating the wool of antiseptic respirators.

Thymol Gauze, Carbasus Thymol.

Thymol	16
Spermaceti	500
Resin	50

Cotton gauze is impregnated with this mixture, liquefied by heat, so as to increase its weight 50 per cent. and contain 1 per cent. of Thymol.

Is used as an antiseptic dressing like carbolic gauze.

Pastillus Thymol is prepared, containing $\frac{1}{32}$ of a grain. See p. 200.

Unguentum Thymol.

Is made 5 to 30 grains to the ounce of Vaseline, Petroleum Cerate, or Lard, the strength depending on the purpose for which it is applied. It is important the Thymol should be dissolved in the basis by the aid of heat, and not made by simple mixture, as particles of undissolved Thymol produce great irritation; 10 grains dissolved in an ounce of Vaseline applied to the skin keeps off gnats, mosquitoes, &c.

Vapor Thymol, T.H.

Thymol	6 grains.
Rectified Spirit	1 drachm.
Light Carbonate of Magnesium	3 grains.
Water to	1 ounce.

A teaspoonful to a pint of water at 140° F. for inhalation; useful in pharyngitis and laryngitis when associated with exanthemata.

References.

1 in 1000 of saccharine solution stops fermentation.—Pr.xx.278.

Physiological properties and use in diabetes and catarrh of the bladder in dose of ½ to 1½ grains.—Pr. xxii.52.

A powerful germicide and antiseptic. A cultivating liquid is rendered sterile by 1 part of Thymol in 2000—B.M.J. i./78,2.

In skin diseases a stimulant ointment 5 to 20 grains to the ounce of vaseline or lard is useful in the later stage of eczema, and dry later stages of psoriasis, and as a parasiticide in those of a fungoid nature.—B.M.J i./78,225; Br. i./78,199.

Use as an antiseptic in uterine affections.—B.M.J i./78,535.

As an external antiseptic application to wounds.—M.T.G. i./78,227.

In ozæna, use as a gargle and nasal injection.—B.M.J. iii./79,692.

In chronic eczema and as a parasiticide 20 grains to an ounce of vaseline most useful; the solution diluted as a mouth wash removes the smell of tobacco, and the soap is recommended for dandriff and in nursery generally. —B.M.J. i./79,14.

Chemical properties and uses.—P.J. i./78,391.

Ringworm of the scalp, recommended and used with success, 1 part Thymol in 4 volumes of chloroform and 12 volumes of olive oil.—L. i./81,241.

In burns, these washed and sprayed with Thymol Solution 1 in 1000 and painted with Thymolised Linseed Oil 1 in 100, the latter when absorbed reapplied so as to prevent contact with the air, yielded most favourable results.—Pr. xxvii.268.

Thymol 1, Ether 10, and Spirit 5, or Thymol 1, Petroleum Oil 18; used as pigments in ringworm of the scalp, whilst acting as parasiticides they dissolve the fat, loosen the hairs, and thus help epilation — B.M.J. i./82,901.

TONGA.

A special preparation recommended for the cure of neuralgia.

Dose.—1 to 2 drachms in water three times a day.

It is a dark brown liquid, the active portion of which is obtained from the scraped stem of *Epipremnum mirabile*, or *Rhaphidophora vitiensis* an araceous creeper, native of the Fiji Islands; the bark of *Premna Taitensis* one of the *Verbenaceæ*, is also used in its manufacture.—P.J.1880,770,849,889; L.i./81,84; B.M.J. ii./81,171.

Use in neuralgia, does not affect the pupil or produce toxic symptoms.—L. i./80,360,445,835.

The writer has prepared from *Arum maculatum*

Succus Ari.

Dose.—1 drachm.

This, a medical friend informed him, relieved an obstinate case of neuralgia in which Tonga was a useful but expensive medicine.—B.M.J. i./81,908.

TRAGACANTHA.

Tragacanth (*Off.*).

Dose.—2 to 10 grains or more.

Glycerinum Tragacanthæ.

	T.H.	(*Off.*)
Tragacanth, in powder	120 grains	110 grains.
Glycerine	1 ounce	1 ounce.
Water	3 drachms	74 grains.

Mix and heat for 10 minutes in a water bath. With heat, *off.*

Forms a useful pill excipient.—See p. 300.

Mucilago Tragacanthæ (*Off.*).

Dose.—1 drachm to 1 ounce, or more.

Improved formula suggested by the writer. 1870,520.

Rectified Spirit	120 minims.
Put in a 20 ounce dry bottle and add	
Tragacanth, in powder	60 grains.
Shake till evenly moistened and add	
Distilled Water	10 ounces.

Shake again quickly to make a uniform muc This keeps much better than mucilage of acacia— not quickly turn sour, and is much more viscous. C part to 3 of aqueous fluid will suspend heavy insolu powders.

Pulvis Tragacanthæ Compositus (*Off.*).

Tragacanth 1, Gum Acacia 1, Starch 1, and Sugar 3

Dose.—10 to 60 grains. Is used as last preparati 10 grains to 1 oz., but mixtures containing it do n keep so well.

Traumaticin.—See p. 121.

TRIMETHYLAMINA.

Trimethylamine. *Syn.*—SECALIN; PROPYLAMINE (?).

Dose of the solution.—20 to 60 minims every 2 to 4 hours.

A solution of this compound ammonia, containing commercially from 10 to 20 per cent. of it dissolved in water was, under the incorrect name of Propylamine, first employed medicinally for the cure of articular rheumatism by Awenarius, of St. Petersburg, in 1854. He reported 250 cases, and affirmed it dissipated the fever and pain of the acute disease in a day or two. Medicinal Trimethylamine is obtained principally by distilling herring brine or stale fish with lime, and purifying the distillate. It was first obtained by the action of a [illegible]tic alkali on ergot, and named Secalin. It has [illegible] abstracted from the leaves of common beet and [illegible]ing goosefoot, the flowers of hawthorn and arnica, [illegible] heating codeine with potassa, as well as from guano [illegible]me other animal substances. The commercial [illegible]on (20 per cent.) is alkaline, colourless, has a [illegible]erring-brine odour, and is miscible with water. [illegible] may be disguised by sweetened peppermint [illegible]syrup of orange-peel. The salt,

[illegible]hylaminæ Hydrochloras,

[illegible]—2 to 3 grains, 3 to 5 times a day,

[illegible]ained by neutralising the solution with hydro-[illegible]cid and evaporating to crystallization. It is [illegible]escent prismatic crystals, very soluble in water, [illegible]ight fishy odour, and a pungent, saline taste; [illegible]given in solution, but more agreeably in a pill [illegible]powdered althæa root and glycerine of tragacanth, [illegible]overed with sandarach solution.

[illegible] acute rheumatism, given with excellent effects, [illegible]ially when begun early.—Pr. x.385.

[illegible]esults of 32 hospital cases, it is a cardio-vascular [illegible]ive, limiting nutrition, and promoting expectoration, [illegible]l in acute attacks of rheumatism.— Pr xxiii.365

Acute articular rheumatism, 7 cases quickly cured by [illegible]—B. F. M. Ch. Rev. i./73,497.

[illegible] Physiological experiments, it increases functions of the cord and accelerates the heart's action; poisonous doses kill by cardio-pulmonary asphyxia —M.T.G. ii./74,240

Employed in 14 cases of acute rheumatism with success, also of value as a liniment; 1 to 3 of glycerine for rheumatic pains.—M.R. 1875,25.

Four cases of rheumatism and gout treated by it.—Br. i./75,46.

Editorial note on 28 cases of acute rheumatism treated by gramme doses of solution every 2 hours, results good.—L. i./75,67.

URANII NITRAS.

Nitrate of Uranium.

Dose.—½ to 5 grains.

Is in large lemon-yellow slightly efflorescent prismatic crystals. It is soluble in half its weight of water, and has an astringent styptic taste. Its solution, 10 grains to an ounce, is used as a throat spray, and internally it has been given with good effect in diabetes in dose of 1 to 5 grains.

VERATRI VIRIDIS RHIZOMA.

Green Hellebore Rhizome (*Off.*).

Dose, in powder.—1 to 5 grains.

The dried rhizome and rootlets of *Veratrum viride*, imported from the United States. Its powder excites sneezing, and it contains the alkaloids Jervine, Veratrine, and Veratroidine. The rhizome of *V. album* and a Wine prepared from it were official in P.L. 1851. It possesses similar properties to *V. viride*. They are recommended as cardiac, arterial, and nervous sedatives. They are said not to be narcotic, but they lower the pulse, respirations, and temperature of the body. Acts on the heart as a powerful cardiac poison analogous to digitalis, but is much more rapid in its action; does not lower the temperature in health.—Pr. i /70,211, L.i./87,951. For puerperal eclampsia.—Th. Gaz.Oct.1887,675.

Tinctura Veratri Viridis. 1 in 5 of rectified spirit. *Dose*. 5 to 20 minims.

VERATRINA.

Veratrine (*Off.*).

Dose.—$\frac{1}{70}$ to $\frac{1}{15}$ grain, in a pill carefully triturated with sugar of milk and glycerine of tragacanth. An alkaloid, not quite pure, obtained from the seeds of *Schœnocaulon officinale*—Sabadilla or Cevadilla seeds; in white or greyish white pulverulent masses; it powerfully irritates the nostrils and excites sneezing, taste bitter and acrid. Nearly insoluble in water; soluble 1 in 11 rectified spirit; 1 in 6 ether; readily and almost completely soluble in diluted acids (a little resin is left). It is poisonous, but has been used as an anti-pyretic and arterial sedative in fevers and acute inflammations—resembles Aconitine in its general effects—irritates mucous membranes, causes sneezing, pricking and twitching of the skin, given in large doses it causes vomiting and purging; sometimes given for neuralgia, spasm, rheumatism and gout, but its principal use is externally in the form of ointment for the relief of neuralgic pains.

Oleatum Veratrinæ, U.S.

Veratrine	2
Oleic Acid	100

Dissolve. Useful for neuralgia.

Unguentum Veratrinæ (*Off.*).

Veratrine	8 grains.
Olive Oil	1 drachm.

Rub together.

Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.

Melt, and when cooling add the mixture of Veratrine and oil, and stir till cold. It excites a sensation of warmth and pricking, followed by coldness; if applied for some time, it will produce a red rash. Like aconitine ointment, than which it is much cheaper, it is useful for facial neuralgia. The ointment is often made stronger, 20 to 40 grains to the ounce, and then it proves very useful in the treatment of sciatica, rubbed into the painful part for 20 to 30 minutes, 2 or 3 times a day, also useful in the neuralgic pain consequent on shingles.

References.

In neuralgia and nervous diseases $\frac{1}{16}$ grain twice a day does good, also relieves palsy from cold.—L. i./48,501.

Physiological action.—M.T.G. ii./66,295, and R.

Relieves toothache applied locally.—L. i./62,54.

Researches on the action of Veratrine on man and other animals, hypodermic injection painful on man, lowers the tension of the circulatory system and makes pulse irregular, feeble, and intermittent, tried for pneumonia.—Rank. i./70,143.

Physiological effects.—Rank. ii./72,125,126

Alcoholic tremor, and that of sclerosis were relieved by $\frac{1}{30}$ grain doses four times a day.—L. ii./83, 118.

Internally and externally, recommended for pruritus. - M.T.G. i./84,509; Pr. xxxiii.61

VERBASCUM THAPSUS.

Great Mullein.

This indigenous scrophulariaceous plant is much used as a household remedy on the Continent, and a sweetened decoction in milk, 1 in 5 of fresh leaves or about 1 in 40 of dried, is employed in Ireland in incipient phthisis

[illegible]

[illegible] to 60 minims. 1 in 8 of proof [illegible]

ZINCUM.

Zinc (*Off.*).

Calamina Preparata.—See p. 288.

Zinci Bromidum, Bromide of Zinc, U.S.

Dose.—3 to 10 grains, in water well diluted.

A white granular powder, very deliquescent, odourless, having a sharp saline and metallic taste, and a neutral reaction, very soluble in water and alcohol. As both bromides and zinc salts have been used with success in epilepsy, this salt has been given with the intent of combining the action of both.

References.

Bromide of Zinc is borne badly, although it unquestionably deserves some of the repute it has enjoyed as an anti-epileptic.—B.M.J. i./80,548.

Diminishes sensation and causes somnolence.—[illegible]/83,722.

Zinci Chloridum, Chloride of Zinc (*Off.*).

Syn.—Butter of Zinc.

Collodium Zinci Chloridi.—See p. 156.

Guttæ Zinci Chloridi, R.O.H.

[illegible] grains to Distilled Water 1 ounce.

Guttæ Zinci Chloridi cum Cocaina, R.O.H.

10 grains Hydrochlorate of Cocaine added to an ounce of the above.

Liquor Zinci Chloridi (*Off.*).

Four minims of this solution = 3 grains of solid Chloride of Zinc. On diluting this Liquor, or making a solution of the salt, with water, generally a white precipitate (Basic Oxychloride) is formed, which may be redissolved by adding a trace of hydrochloric acid.

Chloride of Zinc is a powerful caustic, [illegible] [illegible]. The Liquor, of an [illegible] [illegible], [illegible] as Sir W. Burnett's Disinfecting [illegible]

[illegible]

[illegible] Chloridi, [illegible] R.O.H.

[illegible]ride of Zinc	.	16 ounces.
[illegible], in Powder		1½ ounces.
[illegible]chloric Acid		6 drachms.
[illegible] Water .	to	1 pint

[illegible] the Opium in 12 ounces of the water [illegible] add the acid, and filter, dissolve the Chlorid[illegible] the filtered liquid, and add water *q.s.* to [illegible]

[illegible] above solution	1 ounce.
[illegible] Wheaten Flour	120 grains

[illegible] heat in a water bath until of a proper [illegible] It is used as a caustic for cancerous sores, [illegible] one or more layers being used. Weaker [illegible] applications containing more flour are also [illegible] of Zinc pounded with an equal weight of [illegible] is sometimes used, and may be formed [illegible] spear or rod-shaped, for insertion into wounds [illegible]

[illegible] Zinci Chloridi Antiseptica.

Chloride of Zinc	.	40 grains.
Distilled Water		1 ounce.

[illegible] solution produces such an antiseptic effect [illegible] tissues of a recent wound, that, as the result [illegible] application, the cut surface, though not present[illegible] visible slough, is rendered incapable of putrefaction [illegible] 2 days, notwithstanding its exposure to [illegible]. It is particularly useful in tongue cases, [illegible] removal of tumours of the jaws, or operations [illegible] and after amputations or excisions in [illegible] with putrid sinuses, it is freely applied [illegible] lint to all textures including bones, and [illegible].—B M.J ii/68,58

[illegible] of Zinc has the property of rendering [illegible] aseptic which has already become septic. An [illegible] solution is more energetic than a 5 per [illegible] carbolic acid, and is useful in checking [illegible] hæmorrhage after operations. — [illegible]

Zinci Citras. *Dose.*—3 to 12 grains or more.

An amorphous white powder with a sharp metallic taste, not perfectly soluble in water, as it is a basic salt. Used for epilepsy.

Zinci Cyanidum, Cyanide of Zinc.
Dose.—$\frac{1}{10}$ to 1 grain.

An insoluble white powder, is of value in heart diseases; resembles digitalis in its action; relieves palpitation and irregularity of action.—L. ii./87,277, B.M.J. ii./87,421.

Zinci et Potassii Cyanidum. *Dose*—$\frac{1}{10}$ to 1 grain.

Is a soluble cyanide, possessing all the properties of hydrocyanic acid in a stable form.

Zinci Lactas, Lactate of Zinc.
Dose.—3 to 30 grains in pill, increased as it can be borne.

Is in white crystalline crusts, with a sharp metallic taste, freely soluble in water but insoluble in alcohol. This Salt least deranges the stomach, and has been much used in France for epilepsy.

Zinci Oleatum.—See p. 269.

Zinci Oxidum, Oxide of Zinc (*Off.*)—See p. 238.

Cremor Zinci.—See p. 281.

Gelatum Zincum. Gelatine 2, Water 8, soak 12 hours then heat to dissolve, and add Oxide of Zinc 3, previously rubbed down with Glycerine 6. For use it is melted and applied with a brush to eczematous surfaces.—B.M.J. ii./87,449.

Pulvis Zinci et Hydrargyri Subchloridi, (Westminster Hosp). Oxide of Zinc, Calomel, Tannic Acid, and Starch, equal parts.

Salve Mulls are spread containing **Oxide of Zinc** 10 and 20 per cent.; and **Oxide of Zinc** 20 per cent. combined with **Ichthyol** 4 per cent.; also **Oxide of Zinc** 20 per cent. combined with **Red Oxide of Mercury** 10 per cent. respectively.

Zinci Permanganas. -See p 312.

Zinci Phosphidum.—See p. 289.

Zinci Sulphas, Sulphate of Zinc (*Off.*).
Dose.—1 to 3 gr. tonic, 10 to 30 gr. emetic.

Lotio Rubra, U.C.H. Sulphate of Zinc, 2 grains; Compound Tincture of Lavender, 15 minims; Water, to 1 ounce.

Ophthalmic Discs contain $\frac{1}{250}$ grain **Sulphate of Zinc**, and $\frac{1}{250}$ grain each **Sulphate of Zinc and Opium**, respectively.

Points of Sulphate of Zinc are moulded for intra-uterine medication **Points** of equal parts **Sulphate of Zinc and Alum**, and of **Sulphate of Copper** are also made

Zinci Sulphocarbolas —See p 32.

Zinci Sulpho-ichthyolas.—See p. 219.

Zinci Valerianas, Valerianate of Zinc (*Off.*).

Dose.—1 to 3 grains in a pill with mucilage of acacia.

The crystallized salt is preferred, and pills containing 3 grains in each are generally kept prepared.

SECONDARY LIST OF DRUGS.

OF SOME WE HAVE HAD LITTLE OR NO EXPERIENCE, OTHERS ARE OLD REMEDIES RECENTLY RESUSCITATED.

Abies Canadensis.—Hemlock Pitch Bark. A fluid extract is recommended for use as an astringent in leucorrhœa. —L. ii./86,888; and given internally as an astringent for diarrhœa, hæmoptysis, and night sweats

Aconitum ferox.—Root, called *Bish* or *Bikh* in India Nepaul Aconite by London druggists Contains much Aconitine (Pseud-Aconitine of Fluckiger) (see p. 53) of a virulently poisonous nature. It comes from the Himalayas, probably mixed with the root of other species of aconite, and is in bolder roots than the aconite root imported from Germany. Therapeutically, its action resembles that of *A Napellus*, but is more diuretic and less antipyretic and diaphoretic. Internally, has relieved many cases of neuralgia and acute gout, and forms a valuable liniment for chilblains, &c —B M.J. ii /84,1276; L. i /85,236. Tincture, 1 in 8 of rectified spirit. *Dose*, 1 minim hourly

Aconitum Fischeri.—Produces Japanese Aconite Root, of which much has at times been imported It is very pungent, and yields the alkaloid Japaconitine *A Japonicum*, Thunberg, with yellowish white flowers, has been identified as a variety of *A Lycoctonum* In the root of the European variety of the latter two alkaloids have been found, Lycaconitine and Myoctonine, both of which possess poisonous properties like Curare.—P J 1884,82,104; 1885,892 Botany of—P.J. 1881, 1021,1041.

Aconitum heterophyllum—Root, known as *Atis* or *Atees* in India, is neither poisonous nor antipyretic, but is tonic, and possibly aphrodisiac in action It contains a large quantity of starch *Dose*, in powder, 5 to 20 grains, of tincture 1 in 8 of rectified spirit, 10 to 60 minims.

Adonis vernalis.—Leaves and stalks contain a glucoside Adonidin. They resemble Digitalis in their action, but are said not to be cumulative *Dose*, in powder, 3 to 6 grains; of infusion 1 in 40, 4 drachms; of Adonidin, ¼ to ½ grain daily. Is a cardiac tonic and diuretic.—B.M J. i /86,709. Does not rival digitalis.—L i /86,223. Use in dilated rather than hypertrophied heart.—Pr xxxix. 128, Y B. 1888,13.

Agar-Agar.—Japanese Isinglass Is in membrane-like strips, consisting of the dried jelly of *Gelidium corneum*, a s weed. Another variety comes from Borneo Used for ma jellies for invalids, &c, and as a cultivating nidus for ge also for finishing calicoes, silks, &c.

Alstonia constricta.—Bark is used in Australia as a febrifuge. *Dose*, in powder, 5 grains. A crystalline alkaloid, Alstonine or Chlorogenine, has been isolated from it. Tincture, 1 in 10 proof spirit. *Dose*, ½ to 2 drachms.

Alstonia scholaris.—Dita Bark, from India and the Philippine Islands. Contains a crystalline alkaloid, Ditaine, and the milky juice of the tree forms a substance resembling gutta percha. Tincture, 1 in 10 proof spirit. *Dose*, 1 to 2 drachms.

Arbutin.—A crystallized glucoside obtained from the leaves of *Arctostaphylos Uva Ursi* and other ericaceous plants. It is given for chronic cystitis and vesical catarrh, in dose of 15 to 60 grains with sugar; is not poisonous. It is split up in the system, hydroquinone being produced.—M.R. 1885,104; L. ii./85,184. Summary of German results.—Th. Gaz. 1887, 270.

Asclepias cornuti (A. SYRIACA).—Is diaphoretic and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias incarnata.—White Indian Hemp rhizome. Is a speedy, potent, and reliable diuretic.—Pr. xxiii.141. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias tuberosa.—Pleurisy Root. Is expectorant and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Blatta orientalis.—Cockroach. Is an old Russian remedy for dropsy lately brought into notice. *Dose*, 2 to 8 grains, in powder.

Boldoa fragrans (*Peumus Boldus*).—The leaves, from Chili and Bolivia, resemble those of Sweet Gale (*Myrica gale*), but are more aromatic. Used in dyspepsia, liver affections, rheumatism, and as a diuretic for atony of the bladder. Boldin, a glucoside, has hypnotic properties, and said also to have local anæsthetic properties like cocaine. Tincture of Boldo, 1 in 5 rectified spirit. *Dose*, 10 to 20 minims.—B.M.J. ii./85,1134; i./88,918.

Bonduc Seeds.—From *Cæsalpinia Bonducella* are grey, and *C. Bonduc* are yellowish. In Pharmacopœia of India as a bitter tonic and antiperiodic. *Dose*, in powder, 10 to 15 grains. The powder, deprived of shell, mixed with an equal quantity of black pepper, forms Pulvis Bonducellæ Compositus. *Dose*, 15 to 30 grains.—L. ii./86,324.

Chekan.—The leaves of *Myrtus Chekan*. Are aromatic and expectorant; are used in chronic coughs and bronchitis. *Dose*, of fluid extract, ½ to 3 drachms. Chemical research on.—Th. Gaz. 1888, May, 308.

Collinsonia Canadensis.—The root of this, commonly known as stone-root or knob-root in America, has been employed in gravel and other urinary affections. Is an antispasmodic in flatulent, infantile, and biliary colic, and locally in lax conditions of the uvula, pharynx, and vocal cords. Tincture, 1 in 10 of proof spirit. *Dose*, ½ to 2 drachms. Liquid Extract, 1 in 1. *Dose*, 15 minims to 1 drachm. Suppositories containing 20 to 30 grains of the powder are also used. —B.M.J. ii./87,712. Gastric catarrh.—L. ii./86,31. Cancer of stomach.—B.M.J. i./87,698. Cystitis.—L. i./88,968.

Condurango, P. G.—The Bark of *Gonolobus Condurango*, from Peru. Is bitter and acrid. Used as an alterative, and was a supposed specific for cancer, syphilis, and latterly for dyspepsia. Note on physiological action.—L. i./84,812; L. ii./86,31

Cornus Florida, U. S.—Inner Bark of Root. It is bitter, tonic, and stomachic. *Dose*, in powder, 20 to 60 grains. A fluid extract is made, 1 = 1 of bark.

Crotalus.—A solution of the pure venom of the rattlesnake, *Crotalus horridus*, 1 in 1,000, 3 drops every three hours. Used in malignant scarlet fever.—L. ii./83,54; P.J. 1883,62.

Drosera rotundifolia.—The leaves of Sundew. Have been recommended for chronic bronchitis, asthma, whooping-cough, and to ease the cough of phthisis. Tincture = 1 in 10 of proof spirit. *Dose*, 5 to 10 minims.

Eugenol, *Syn.* Eugenic Acid.—A colourless oily liquid, darkening on exposure, obtained as an oxidation product of oil of cloves. It has a strong clove odour, and is a powerful antiseptic and antiputrescent. Has been employed by dentists.

Eupatorium perfoliatum, U.S.—Boneset, Thoroughwort. The leaves and flowering tops contain a volatile oil and a glucoside, Eupatorin; is tonic and diaphoretic. Warm infusion is used like chamomile tea as an emetic. Given for ague, dyspepsia, and debility. In large doses is cathartic, and has been given to expel tænia. *Dose*, in powder, 10 to 60 grains; or 10 to 60 minims of fluid extract, U.S.

Galium aparine.—The plant Cleaver's or Goose Grass. Is acid, astringent, and diuretic. Has been used in dropsy, jaundice, scrofulous scaly eruptions, epilepsy, and obesity; and, externally, a poultice of the fresh plant beat into a pulp and the juice have been applied to promote healthy granulation in cancerous sores, and as a styptic for bleeding wounds. Succus Galii, *dose*, 1 to 2 drachms; and Extractum Galii, 5 to 20 grains. —B.M.J. i./83,1173; ii./83,14. For psoriasis.—B.M.J. i./86, 588.

Geoffroya inermis (*Andira inermis*).—Bark of Cabbage Tree, Worm-bark Tree of tropical America. Is bitter, astringent, febrifuge, and vermifuge in dose of 20 to 30 grains; larger doses are emetic, purgative, and narcotic.

Geranium Maculatum, U.S.—Cranesbill root, is a powerful astringent; contains about 16 per cent. of tannin; used in diarrhœa, and locally in relaxed conditions of the mucous membranes. Geranin, a dried extract, is given in dose of 1 to 5 grains. Fluid Extract, U.S., *Dose*, 15 to 60 minims.

Gouania Domingensis. — Jamaica Chew stick. Root contains Saponin; in powder is used as a dentifrice and to make mouth lotions; root stem also used as a tooth brush in U.S.A., and chewed after meals as a sialogogue to assist digestion.

Henna. -The dried leaves powdered of *Lawsonia inermis*, *L. spinosa*, and *L. alba.* Are used in Egypt for toilet purposes as a cosmetic dye.

Hydrocotyle Asiatica.—This umbelliferous herb is used in India for specific skin diseases, scaly eruptions, and ozæna, as an alterative and diuretic, in 4 to 10 grain doses internally; is added to lard as an ointment, also to poultices, and used as snuff in ozæna. Contains 15 per cent. of a volatile oil named Vellarine.—L. i./85,444.

Hymenodictyon excelsum.—Inner bark is in Indian Pharmacopœia. Is astringent and bitter like cinchona, and is given as a tonic and febrifuge. Contains the alkaloid Hymenodictyonine, and Æsculin.—P.J. 1883,811; 1884,196.

Jacaranda lancifoliata.—A Columbian plant. The fluid extract of this, known as Salud, has been recommended for syphilis, gonorrhœa, and gleet. *J. procera*, *J. tomentosa*, and other species are known by the name of Caroba in Brasil, and are said to have similar properties.—P.J. 1875,905; B.M.J. i./85,827.

Jambul. The seeds of *Eugenia Jambolana*, have been used, in cases of diabetes. Is said to check the diastasic conversion of starch into sugar. May be administered in powder, or in pills, capsules, or cachets. *Dose*, 5 to 10 grains.—B.M.J. i./87,617; ii./87,1459; i./88,901,1112; L. ii./87,604,733; i./88, 868; P.J. 1888,921.

Jatropha Curcas (*Curcas purgans*).—Physic Nut, in Pharmacopœia of India. Yields about 30 per cent. of a fixed purgative oil, which has an almond-like taste; 12 to 15 drops have the same effect as an ounce of castor oil; externally, it is a stimulant, and in the East is applied locally to increase the secretion of milk. Capsules, 10 minims in each.

Kava-Kava.—Root of *Piper methysticum*, imported from the Polynesian Islands. Is used by natives as a sialogogue and to make a fermented drink. Contains an essential oil, two resins, and about 1 per cent. of a neutral crystalline principle, Kavalin or Methysticin, allied to Piperine. Is a bitter tonic, with agreeable taste, stimulates the nervous system, and is diuretic. Has been found useful for gonorrhœa and gout. Extract, hydro-alcoholic. *Dose*, 5 to 10 grains. Liquid Extract, 1 in 1, of 3 parts Spirit and 1 part water. *Dose*, 15 to 60 minims. Pill = 3 grains extract. *Dose*, 1 to 3 or 4. Infusion, 1 in 320. *Dose*, ¼ pint.—B.M.J. i./86,221; P.J. 1886,818,1006,149,708. Though more palatable than, is not equal to copaiba or santal oil.—L. ii./87,604. Is a local anæsthetic to tongue and eye.—B.M.J. i./87,635.

Koromiko.—These herbs, *Veronica salicifolia* and *V. parviflora*, imported from New Zealand, are used there and in China as a remedy for chronic dysentery and diarrhœa. Tincture, 1 in 5 of proof spirit. *Dose*, ½ to 1 drachm.

Lachnanthes tinctoria.—Spirit Weed, Red Root. A tincture = 1 in 10 of proof spirit of this United States plant; is used to check the cough in phthisis. *Dose*, 1 to 10 minims.

Lycoperdon giganteum.—Puff Ball. This forms a soft and comfortable surgical dressing. The dusty powder is a powerful hæmostatic.—Whitla.

Manaca.—Root of *Franciscea uniflora*, from Brazil and equatorial America. Is purgative and diuretic; much recommended for syphilis and rheumatism.

Maidis Stigmata.—The glistening thread-like stigmata of nearly ripe Maize fruit. Are demulcent and diuretic. Used in acute and chronic affections of the kidneys and bladder, *e.g.*, catarrh of, cystitis, nocturnal incontinence of urine, and cardiac dropsy. Useful in renal catarrh and colic.—M.R. 1885,103. Fluid extract, *dose*, 1 drachm; of extract, 20 grains.—L. ii./85,799; ii./87,605.

Maidis Ustilago.—Maize Ergot, Corn Ergot. Is used in arturition in place of ergot. Is said to increase the force with out increasing the duration of uterine contractions. *Dose*, 15 to 60 grains.—Pr. lx. 215; Th. Gaz. Dec. 1887,844.

Mandragorine.—A crystallised alkaloid, obtained from Mandrake root, *Mandragora officinalis*. A solution of the sulphate is a mydriatic. The plant itself was, by the ancients, considered a narcotic.—P.J. 1885,1067; L. ii./85,87.

Pharbitis Nil.—Seeds. *Syn.*—Kaladana in Pharmacopœia of India. Are official to produce Pharbitisin, a resin allied to Resin of Jalap, given in dose of 2 to 8 grains as a purgative.

Phellandrium aquaticum.—Fruit of Water-Fennel. Is a stimulant, diaphoretic, and expectorant; useful in bronchitis and phthisis.

Quillaia saponaria.—The bark of this (soap-bark) contains quillaic acid and sapotoxin, closely allied to saponin. Has a sweetish but acrid after-taste, and possesses emulsifying properties, causing frothing in water in which it has been macerated. Soap-bark has been used as an expectorant in bronchitis, contra-indicated in inflammation of the intestines or stomach, or ulcerated condition of the mucous membrane. Tincture, B.P.C., 1 in 10 of Rectified Spirit, is used in making tar preparations. See p. 127. *Dose*, 20 to 60 minims.—P.J. 1886,360. Better made with a weaker spirit for internal use.—L. ii./87,1287.

Salix nigra.—The root of this, the black or pussy willow, is used in North America as a sexual sedative in gonorrhœa and spermatorrhœa. Liquid extract, 1 in 1. *Dose*, ½ to 1 drachm. Relieves ovarian pain and nocturnal emissions.—B.M.J. ii./87, 337; L. i /88,869.

Sarracenia purpurea.—Pitcher Plant. This herb is considered tonic and diuretic; at one time used as a specific for small-pox.

Scopolia Japonica.—The root of this, known in commerce as Japanese Belladonna, yields an alkaloid, Scopoline, which is a mydriatic, and produces as much dilatation as atropine in half the time, and effects last longer.—L. ii /84,558; B.M.J. i./86,1113.

Sethia acuminata.—Is a vermifuge, especially for round worm; useful for children, as its taste is not disagreeable. Fluid extract, 2 – 1 of leaves. *Dose*, 20 to 40 minims.—P.J. 1882,818. Has also narcotic properties.

Siegesbeckia orientalis. This herb is said to be useful, combined with iodide of potassium, in syphilis and gout. The juice is healing applied to gangrenous sores. Recommended as a topical application for tinea and thrush.—B.M.J. i./87, 1304; ii./87,508.

Simulo.—Fruit of *Capparis coriacea*, from Peru. Its powder, 45 grammes in 500 grammes of sweet wine, of which a wineglassful was taken every night and morning, cured a case (Dr. Larrea, who narrates it) of epilepsy after he had 14 fits, preceded by a distinct aura. He has used it much in nervous diseases, hysteria, and epilepsy. — L. i./85,722; B.M.J. i./85,1184; P.J. 1885,890. Cases of epilepsy improved by its use.—L. i /88,617.

Sparteine Sulphate.—Obtained from leaves and branches of broom, *Cytisus scoparius*, in colourless rhombohedral crystals, soluble 3 in 2 of water. Has a tonic action on the heart, restoring its rhythm and accelerating its beats when in a weak atonic state.—B; L. i./87,891; Th. Gaz. Dec 1887,827; B.M.J. i./85,[illegible]; L. ii./87,319. The pure alkaloid Sparteine is in a syrupy liquid condition Is not cumulative, a valuable diuretic, should be tried when digitalis fails, relieves steno-cardiac attacks.—B M.J i /88,363; Intern Jour Med Sci. Oct. 1887,[illegible]. *Dose* of the Sulphate, $\frac{1}{2}$ to 4 grains **Hypodermic Lamels of Sparteine** contain 1 grain combined with gelatine

Tayuya.—"Leroy vegetal" Root of *Trianosperma ficifolia*, a Brazilian plant allied to *Bryonia alba* Is a drastic purgative and emetic, excitant to the lymphatic system, and an active depurative Tincture, 1 in 4 proof spirit *Dose*, 6 to 15 minims, increased. Is used for tertiary syphilis and dropsy Active principle, Tayuyina (Trianospermina of Peckolt), is a drastic purgative —P J 1880,667, is ascribed to *Dermophylla pendulina* —L. ii /81 891

Triticum repens, U S —Underground stems (stolons) of Couch grass, Dog grass, or Quitch. Is diuretic and emollient. Used in bladder and kidney affections Decoction, 1 to produce 20 *Dose*, 2 to 8 ounces Liquid Extract 1 in 2 *Dose*, 1 to 6 drachms

Ulexine—An alkaloid in yellowish white crystals, soluble in water, obtained from *Ulex europæus*, or common furze Is a powerful diuretic It forms a hydrobromate freely soluble in water *Dose* of each, $\frac{1}{3}$ to $\frac{1}{2}$ grain Requires caution — P J 1886,229 Benumbs the tongue produces clonic spasm and palsy in frogs —Prov M J 1886,432 Physiological properties as an antidote to strychnine —Th Gaz Oct 1887,690, L ii /86,645, L i /88,241.

Urethane—*Syn*—ETHYL CARBAMATE Is in colourless prismatic crystals, easily soluble in water tasting like nitre, inodorous; used as a hypnotic, produces normal sleep; heart is not affected Especially suitable for children, cases of delirium tremens, and in acute mania *Dose*, 16 to 60 grains —L ii /85,647, i /86 370, Pr xxxv 270,328,417 Proved more useful than chloral in tetanus L i /86,1112 Is antagonistic to strychnine —L ii /86 31 Insomnia of cardiac disease L ii /85 1167 Other recommendations —B.M.J i /86,164, L i /86,370, B M J ii /86,468,640

Urtica dioica—Stinging Nettle An alcoholic fluid extract prepared from entire young plant gathered in the spring Is recommended as a local hæmostatic Is applied on cotton wool for epistaxis, for hæmorrhage after tooth extraction, &c —L ii /85,647

Vanillin.—*Syn*—VANILLIC ACID Occurs in white acicular crystals, having a strong odour if obtained from vanilla, but is also obtained as a derivative of coniferine, a glucoside obtained from coniferous woods Soluble in alcohol, ether, and oils, sparingly so in water Vanillin 1, phloroglucin 2, in absolute alcohol 30, forms Günsberg's test for mineral acids, with which one drop gives a fine red colour, red crystals being precipitated, organic acids do not affect the test —B M.J. i./88,807, Th Gaz March, 1888 171 On lower animals is a convulsive agent causing epileptiform movements, but on man, 10 or 16 grammes given without noxious results Use suggested in atonic dyspepsia as an exc to-motor stimulant —P.J 1886,23.

Viburnum prunifolium, U.S.—Bark of Black Haws. Is an astringent and bitter nervine tonic; has a good repute for preventing abortion, and is used for dysmenorrhœa. Extract, *dose*, 2 to 10 grains.—L. ii./85,36; Pr. xxxiv.50. Abortion threatened, pain and bleeding were checked, fifteen cases.—L. ii./86,888; see also B.M J. i/86,391,489; ii./87,1153. The bark of *V. opulus* (Cramp Bark) is also used in the States as an anti-spasmodic, and for relaxing cramp of all kinds; in hysteria, during pregnancy. A combination with extract of malt is sold as Malto-Viburnin. *Dose*, 1 to 4 drachms.

Vinca major.—Great Periwinkle Herb. Is astringent, and has been used for menorrhagia. Infusion, 1 in 10. *Dose*, a wineglassful frequently. Liquid extract, 1½ drachms.

Viola tricolor, U.S.—Flowering plant of Wild Pansy. Is supposed to contain a little Violin, found in *Viola odorata*, and resembling Emetin in action. Is used externally as an ointment, and a poultice. *Dose*, 10 to 60 grains in infusion.

Viscum album.—Mistletoe. The berries are said to be emetic and purgative. The plant contains Viscin, a kind of birdlime. Has been used for epilepsy and hysteria *Dose*, in powder, 10 to 60 grains.

Yerba Santa (*Eriodictyon glutinosum* or *E. Californicum*).—Leaves are aromatic and sweetish, often agglutinated together; they are stimulant to mucous membranes of the bronchial tubes. Used for bronchitis, phthisis, and other catarrhal affections. Fluid extract, 10 to 40 minims. Is sold combined with extract of malt, as Malto-Yerbine. *Dose*, 1 to 4 drachms.

APPENDIX.

I.

ANTISEPTIC APPLICATIONS AND SURGICAL DRESSINGS.

Bandages.	PAGE
Alembroth Gauze, 6 yd. rolls, 5 in. wide	210
Buttercloth, 6 yd. rolls, 2 in., 2½ in., 3 in., and 4 in.	
Carbolic Gauze, 6 yd. rolls, 5 in.	27
Crinoline, for Silicating, 6 yd. rolls, 3 in.	
Domette (flannel), 6 yd. rolls, 3 in.	
Elastic, Circular Stocking, 2½ in., 3 in., and 3½ in. ...	
Elastic, India Rubber Webbing, 1 in., 2 in., and 3 in.	
Eucalyptus Gauze, 6 yd. rolls, 5 in.	179
Muslin, Check, for Plaster of Paris, 3 in.	
Selvedge, or Fast Edge, 6 yd. rolls, 2 in., 2½ in., 3 in., and 3½ in.	
Selvedge, Grey, 6 yd rolls, 2 in	
Silicated, 6 yd. rolls, 3 in. and 6 in.	339
Water Dressing, bleached, plain, 6 yd. rolls, 2 in., 2½ in., 3 in., 4 in., and 6 in....	
"First Help for Wounds"	
Buttercloth	
Catgut, Carbolised, in bottles with Carbolic Oil, Nos. 0, 1, 2, and 3	27
,, Chromic, Nos. 0, 1, 2, and 3	34
Drainage Tubes, India Rubber, perforated, of various dimensions	
Gauze, Alembroth, 1 per cent., 6 yd. pieces	210
,, ,, and Cotton Wool Tissue, 2 per cent., 1 lb. packages	210
,, Carbolic, 6 yd pieces	27
,, Eucalyptus, 6 yd. pieces	179
,, Eucalembroth, 6 yd. pieces...	210
,, Iodoform, 20 per cent., 6 yd. pieces	228
,, Salicylic, and Cotton Wool Tissue	
,, Thymol, 6 yd. pieces	358
Gutta Percha Tissue	
Jaconet, Pink Macintosh or Hat Lining	28
Jute, from bark of *Corchorus, sp. var.*, about 1 lb. rolls	
,, Salicylic, in ½ lb. packages	
Lint, Absorbent, finest, 1 lb. packages, 4 oz., 2 oz., and 1 oz. boxes	
,, ,, Surgeon's	
,, Boric, 1 lb. packages, 8 oz., 4 oz., and 2 oz. boxes	22
,, Iodoform, 10 per cent.	228
,, Marine, 1 lb. tins	306
,, Styptic	187

		PAGE
Lotion, Boric Acid, saturated		23
,, Carbolic Acid, 1 in 20		27
,, Sublimate, 1 in 500		208
Macintosh, Waterproof Sheeting		23
Moss (Sphagnum), loose		341
,, ,, compressed into sheets, thin		341
,, ,, ,, ,, ,, thick		341
Nainsook Muslin, for Ointments		
Oil, Carbolised, 1 in 10, or 20		27
,, ,, non-congealing, for Catheters		27
Oiled Silk		
,, Non-adhesive (French)		
Oiled Silk Protective		28
Pads, Obstetric, Alembroth		
Piline, Impermeable		
,, Spongio		
Plasters, Spread.		
Adhesive, on unglazed Calico, yd. rolls		
,, ,, Union		
,, ,, Moleskin		
,, ,, Tapes, unglazed Calico, Holland, Silk, and Waterproof		
India Rubber Adhesive, 7 in. wide, yd. rolls		
,, ,, ,, ,, ,, 5 yd. rolls		
,, ,, ,, Porous, yd. rolls		
,, ,, ,, Twilled Linen, yd. rolls		
,, ,, ,, Tapes, ½ in., 1 in., 1½ in., 2 in., and 3 in.		
Isinglass on Muslin, 7 in. wide, yd. rolls		
,, ,, ,, 11 in. wide, 5 yd. rolls		
,, ,, Silk, Flesh, White, and Black, yd. rolls		
,, ,, Gold Beaters' Skin, 6 in. wide, yd. rolls		
Plaster Mulls, Unna's.		
Acidi Pyrogallici,	42 per cent.	42
,, Salicylici,	38 ,,	45
,, ,,	50 ,,	45
Acidi Salicylici	20 ,,	45
Creasoti	40 ,,	
Acidi Salicylici	24 ,,	45
Creasoti	48 ,,	
Acidi Salicylici	29 ,,	45
Creasoti	49 ,,	
Acidi Salicylici	60 ,,	45
Ext. Cannab. Ind.	15 ,,	
Belladonnæ Ext.	30 ,,	88
Chrysarobini	18 ,,	121
,,	45 ,,	121
Hydrargyri	65 ,,	206
Hydrargyri	58 ,,	206
Acidi Carbolici	20 ,,	
Hydrargyri	35 ,,	206
Zinci Oxidi	35 ,,	
Hydrargyri Ammon	50 ,,	206
Iodoformi	50 ,,	224
Resorcin	50 ,,	325

PAGE

Salve Mulls, Unna's.
Acidi Borici, 1 side 20 per cent. 24
" " 2 sides 10 " 24
Emp. Plumbi } 10 " 29
Acidi Carbolici }
Zinci Oxidi, 1 side 20 " 366
" " 2 sides 10 " 366
Zinci Oxidi 20 " }
Ichthyol 4 " } 366
Zinci Oxidi 20 " }
Hydrarg. Ox. Rub. 10 " } 366

Sawdust, Eucalyptus 180

Sponges, Carbolised (to order) ... ...
" (Gamgee) ... ...

Silk Ligatures, Carbolised, reels 29
" Salicylic, ½ lb. boxes 45

Spray Apparatus for Disinfectants, Perfume and Medicated Solutions . . ...
" " for Cocaine Solutions ... ...

Sublimate Lotiforms, }
Sublimate Pastils, } for making lotions 209

Tenax, Carded Oakum, 1 lb. packages 306

Tow, Flax, (about) ½ lb. rolls ... ...
" " Carbolised, ½ lb. packages 28
" Jute (see above) ... ...

Wood Wool Diapers, for Menstruation 304
" " Sheets, for Accouchement 304
" " Wadding, for Wound Dressing 304

Wool, Prepared Cotton, finest, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes 202
" Absorbent, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes 202
" " Alembroth, 2 per cent, 1 lb. packages 210
" " Boric Acid, 1 lb. packages 22
" " Carbolised, 5 per cent, 1 lb. packages 28
" " Eucalyptus, 5 per cent., 1 lb. and ½ lb. packages 180
" " Iodised, 6 per cent., 1 lb. packages ... 228
" " Iodoform, 10 and 50 per cent., 1 lb., ½ lb., and ¼ lb. packages . 223
" " Salicylic Acid, 4 and 10 per cent., 1 lb, packages... 45
" " Salicylated Camphor 165
" " Styptic, 1 lb. and ½ lb. packages ... 187
" Fir, Wadding, in sheets 303

II.

HISTOLOGICAL PREPARATIONS FOR STAINING, HARDENING, AND MOUNTING MICROSCOPIC OBJECTS.

Acid. Acetic.
,, Carbolic. Puriss. No 1
,, Chromic.
,, Formic Fort
,, Osmic. gramme tubes.
,, ,, Solution, 1 per cent.
,, *Picric, Solution, Aqueous, 1 per cent.
,, Picric, Solution, Alcoholic, 6 per cent
Agar Agar.
Alcannin.
Alcohol Absolute, S G ·795.
,, Meth. Fort.
Alizarine Paste, 20 per cent
Ammonium Chromate.
,, Bichromate
Aniline, Liquid (Phenylamine)
,, Sulphate.

Aniline Colours
Acid. Rosolic.
Black, Brilliant.
,, Blue.
,, Raven.
,, Violet.
Bleu de Lyon.
Blue, China.
,, Hofmann's.
,, Methylene.
,, Nicholson's.
,, Opal.
,, Pure Soluble.
Brown, Bismarck.
Chrysoidine.
Citronine.
Coralline.
Eosine.
Flamingo.
Fuchsine.
,, Acid.
Green, Acid.

Aniline Colours—*contd.*
Green, Iodine.
,, Malachite.
,, Methyl.
Magenta (Roseine).
Nigrosine.
Orange
,, Methyl.
Phosphine.
Phloxine.
Ponceau.
Primrose.
Purple (Spiller's)
Red, Congo.
,, Insoluble in Water.
Rhodamine.
Rosaniline Acetate.
,, Hydrochlorate.
,, Nitrate
Roseine (Magenta).
Rubine.
Safranine
Scarlet, Atlas
Sloeline (Blue Black).
Tropæoline O O.
Vesuvine.
Violet, Methyl Dahlia.
,, ,, Gentian.
,, ,, 5 B
,, ,, 6 B.

Aniline Staining Solutions—
Solution of Blue, Methylene.
,, Borofuchsine.
,, Brown, Bism'k.
,, Chrysoidine (Saturated).
,, Eosine.
,, Green, Iodine.

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* As Picric Acid is now placed under the Explosives Act, 1875, it is only allowed to be stored in solution.

Aniline Staining Solutions—*contd.*
Solution of Magenta.
,, Magenta and Aniline for Bacilli (Ehrlich-Weigert's).
,, Magenta, Methylene Blue, and Aniline (Gibb's double)
,, Nigrosine.
,, Purple (Spiller's).
,, Safranine, (Alcoholic).
,, Sloeline.
,, Vesuvine.
,, Violet, Methyl.
Asphalt Solution.
Benzol, Genuine Purified.
Cacao Butter.
Canada Balsam
,, ,, dried.
,, ,, dried and dissolved in Xylol, with dropper.
,, ,, dried and dissolved in Chlorof'm, with dropper.
Carmine.
,, Glycerine.
,, Solution (Beale's).
,, Alum Solution (Grenacher's)
,, Borax Solution (Grenacher's).
Chloroform, Meth. Purif.
Creasote, Anhydrous.
,, and Shellac Cem'nt.
Celloidin.
,, Solution.
Collodion, double strength.
Cochineal, Alum. Liquid.
Cyanin.
Dammar Varnish, with dropper.
Ether, Methylated ·730.
,, ,, Purif. ·720
Glycerine, Pure Distilled.
,, Jelly.
Gelatine, French, G'ld Label.
Gold Chloride, 15-grain tubes.
,, Size.
Hæmatoxylin.
,, Solution (Grenacher's).
,, ,, (Ehrlich's).
,, Lithium Solution (Weigert's).
,, Solution (Kleinenberg's Alcoholic).
Hollis' Glue.
Indigo Carmine.
Logwood Staining Solution (Aqueous).
,, Extract, Pure.
,, ,, Liquid.
Mayer's Pepsin Solution.
Methyl-Chloride, in kilo. cylinders.
Mounting Solution (Farrant's).
Millon's Reagent (Mercuric-Nitrate. Solution).
Müller's Fluid
Oil of Cedar Wood.
,, Cloves, Pale.
,, Lavender, Pure French.
,, Origanum (Colourless).
,, Turpentine (Rectified).
Paraffin Wax, 100°, 110°, 120°, 135°.
Pasteur's Fluid, with or without sugar.
Peptone, Pale Brown.
,, Pure White.
Phloroglucin.
Picrocarmine Solution.
Potassium Chromate.
,, Bichromate.
Prussian Blue, Soluble.
Purpurine.*
Silver Nitrate, Cryst.
Toluol.
Vanillin.
Xylol.
Zinc Cement
Zinc Iodo-Chloride (Schultz's Solution).

III.

GAUBIUS' TABLE

Of Proportion of Dose according to Age.

For an adult, suppose the dose to be	1	or	60	grains,
Under 1 year will require ,,	$\frac{1}{12}$	,,	5	,,
,, 2 ,, ,, ,,	$\frac{1}{8}$	,,	8	,,
,, 3 ,, ,, ,,	1	,,	10	,,
,, 4 ,, ,, ,,	$\frac{1}{4}$	,,	15	,,
,, 7 ,, ,, ,,	$\frac{1}{3}$	,,	20	,,
,, 14 ,, ,, ,,	$\frac{1}{2}$	,,	30	,,
,, 20 ,, ,, ,,	$\frac{2}{3}$	,,	40	,,
21 to 60, the full dose, or	1	,,	60	,,

Above this age, an inverse gradation must be observed

Another rule is, for children under 12, add 12 to the age, and divide the age by the amount thus obtained, thus for 8 years $\frac{8}{8 + 12}$ $\frac{2}{5}$ of adult dose

INDEX

AND

POSOLOGICAL TABLE.

THIS index includes not only the name and adult dose of each drug and preparation described in the foregoing pages, but also those of official drugs and preparations to which a dose is assigned by the British Pharmacopœia.

The official names are printed in italics. Where no number of the page is inserted, the drug or preparation is not elsewhere mentioned. Lists of Formulæ for **Bougies, Granular Effervescent Preparations, Hypodermic Injections, Pessaries, Pills, Suppositories, Lozenges, Hypodermic Lamels, Ophthalmic Discs, and Plaster and Salve Mulls** are added in alphabetical order.

NAME.	DOSE.	PAGE
Abies Canadensis .		368
Abrus Precatorius		19
Absolute Phenol	1 to 3 gr.	26
Absorbent Powders		288
A.C.E.		115
Acetanilide, *syn*. Antifebrin		129
Acetic Ether	20 to 60 m.	59
Acetic Liquor of Ergot . .	10 to 60 m.	175
Aceto-phenone, *syn*. Hypnone . .		128
Acet-phenetidin, *syn*. Phenacetin		133
Acetum Cantharidis, 1 in 10 ... ...,		107
,, *Scillæ*	15 to 40 m.	
Acidulated Brine Test		352
Acidum Aceticum...	5 to 15 m.	
,, *Aceticum Dilutum*	1 to 2 dr.	
,, *Aceticum Glaciale*	2 to 5 m.	
,, *Arseniosum*	1-60 to 1-12 gr.	77
,, *Benzoicum*	3 to 15 gr.	19
,, Boracicum, *syn*.	5 to 30 gr.	22
,, *Boricum*	5 to 30 gr.	22
,, Carbazoticum	¼ to 2 gr.	41
,, *Carbolicum*	1 to 3 gr.	25
,, *Carbolicum Liquefactum* ...	1 to 4 m.	26
,, Catharticum	4 to 8 gr.	34
,, *Chromicum*		34
,, Chrysophanicum ...	1-6 to ½ gr. or more.	119

Name.	**Dose.**	**Page**
Acidum Citricum	10 to 30 gr.	
,, Di-Iodo-Salicylicum		227
,, Fluoricum Dilutum	15 to 60 m.	36
,, *Gallicum*	2 to 10 gr. or more.	
,, Gynocardicum	¼ to 3 gr.	370
,, Hippuricum		21
,, *Hydrobromicum Dilutum*	20 to 60 m.	35
,, *Hydrochloricum*	2 to 10 m.	
,, *Hydrochloricum Dilutum*	10 to 30 m.	
,, *Hydrocyanicum Dilutum*	2 to 8 m.	
,, Hydrocyanicum Dil. (Scheele)	1 to 4 m.	
,, Hydrofluoricum Dilutum	15 to 60 m.	36
,, Iodo-Salicylicum		227
,, *Lacticum*	5 to 20 m.	37
,, *Lacticum Dilutum*	30 to 120 m.	37
,, *Meconicum*		39
,, *Nitricum*	2 to 6 m.	
,, *Nitricum Dilutum*	10 to 30 m.	
,, *Nitrohydrochloricum Dilutum*	5 to 20 m.	
,, *Oleicum*		265
,, Orthoxyphenyl-Sulphurosum		33
,, Osmicum, sol. 1 per cent.	2 to 10 m. daily	39
,, Phenicum	1 to 3 gr.	25
,, *Phosphoricum Concentratum*	2 to 5 m.	40
,, *Phosphoricum Dilutum*	10 to 30 m.	41
,, Picricum	¼ to 2 gr.	41
,, Pyrogallicum	½ to 1½ gr.	42
,, *Salicylicum*	5 to 30 gr. or more.	43
,, Scleroticum	½ to ¾ gr.	175
,, Sozolicum		33
,, *Sulphuricum*	1 to 3 m.	
,, *Sulphuricum Aromaticum*	5 to 30 m.	171
,, *Sulphuricum Dilutum*	5 to 30 m.	
,, *Sulphurosum*	30 to 60 m.	51
,, *Tannicum*	2 to 10 gr.	
,, *Tartaricum*	10 to 30 gr.	
,, Trichlorphenicum		33
,, Trinitrophenicum	¼ to 2 gr.	41
Aconite Leaves and Root		53
Aconitina	1-240 to 1-60 gr.	53
Aconitinæ Oleatum, 1 in 50		54
Aconitine	1-240 to 1-60 gr.	53
Aconitum Ferox		368
,, Fischeri		368
,, Heterophyllum	5 to 20 gr.	368
,, Japonicum		368
,, Lycoctonum		368

NAME.	DOSE.	PAGE
Aconitum Napellus		53
,, Uncinatum		368
Actæa Racemosa		121
Adeps Lanæ		239
Adepsine		278
Adonidin	¼ to ½ gr.	368
Adonis Vernalis	3 to 6 gr.	368
Æther	20 to 60 m.	5
Æther Aceticus	20 to 60 m.	59
,, Phosphoratus	1 to 10 m.	286
,, *Purus*		57
,, *Sulphuricus*	20 to 60 m.	55
Æthyl Bromidum		60
,, Iodidum		61
,, Nitris		59
Agar-Agar		368
Agaricin	1-12 to 1-6 gr.	62
Agaricus albus	10 to 30 gr.	62
,, Muscarius		256
Agnine		239
Aix-les-Bains Water (Artificial)		100
Albumen, Tests for		352
Alcohol Ethylicum		62
Aldehydum Dilutum		63
Alder (Black), Bark of		326
Alembroth Gauze and Wool		210
,, Salt		210
Alkaloids of Cinchona		125
Aloe Barbadensis, or *Socotrina*	2 to 6 gr.	64
Aloin	1 to 4 gr.	64
Alstonia Constricta		368
,, Scholaris		369
Althein	1 to 2 gr.	79
Alum, Ammonium	10 to 20 gr.	65
,, Iron	3 to 10 gr.	193
,, *Potassium*	10 to 20 gr.	5
Alumen Exsiccatum		65
Aluminii Acetas		65
Amanita Muscaria		256
American Indian Hemp		73
Ammoniacum	10 to 20 gr.	
Ammonii Benzoas	10 to 30 gr.	20
,, Bicarbonas	3 to 10 gr.	66
,, *Bromidum*	2 to 20 gr.	60
,, Carbazotas	1-8 to 1½ gr.	41
,, *Carbonas*	3 to 10 gr.	66

NAME.	DOSE.	PAGE
Ammonii Chloridum	5 to 20 gr.	66
,, Fluoridum	1-24 to 1-8 gr.	36
,, Hypophosphis	1 to 3 gr.	291
,, Iodidum	3 to 20 gr.	67
,, *Nitras*		67
,, *Phosphas*	5 to 20 gr.	67
,, Picras	1-8 to 1½ gr.	41
Ammonio-Ferric Alum	3 to 10 gr.	193
Amycos		23
Amyl Colloid		155
,, Hydride		155
Amyl Nitris	½ to 1 m. by mouth 2 to 5 m. inhaled	68
Amyleni Hydras	30 to 80 m.	70
Amyli Iodidum	to 4 drs.	229
Anacardium Occidentale		71
,, Officinarum		71
Analgesine, *syn.* Antipyrin		130
Anamirtin		297
Andira Inermis	20 to 30 gr.	370
Anemonin	1-60 to 1-12 gr.	314
Aniline		128
,, Colours		378
Anisi Fructus		7
Anisi Stellati Fructus		8
Anodyne Colloid		155
,, Vesicant		107
Anthemidis Flores		71
Anthoxanthum Odoratum		72,161
Antifebrin	4 to 15 gr.	129
Antifungin		25
Antimonii Chloridum		72
,, *Oxidum*	1 to 4 gr.	
Antimonium Sulphuratum	1 to 5 gr.	
,, *Tartaratum*	Diaphoretic, 1-16 to 1-6 gr. Depressent, 1-6 to 1 gr. Emetic …… 1 to 2 gr.	
Antipyrin	15 to 30 gr.	130
Antiseptic Applications		375
Antiseptic Ozonic Ointment		214
Antithermin	8 gr.	132
Antrephores		134
Apiol	3 to 6 m.	73
Apocynin	½ to 1 gr.	73
Apocynum Cannabinum		73
Apomorphinæ Hydrochloras	1-16 to ¼ gr. by mouth 1-25 to 1-6 hypoderm.	74

Name.	Dose.	Page
Aqua		8
,, *Anisi*	½ to 1 oz.	8
,, *Aurantii Floris*	½ to 2 dr.	
,, *Camphoræ*	½ to 2 oz.	102
,, *Carui*	½ to 2 oz.	
,, *Chloroformi*	½ to 2 oz.	117
,, *Cinnamomi*	2 dr. to 1 oz.	
,, *Fœniculi*	½ to 2 oz.	
,, *Laurocerasi*	½ to 2 dr.	8
,, *Menthæ Piperitæ*	½ to 2 oz.	
,, *Menthæ Viridis*	½ to 2 oz.	
,, Picis	5 to 10 oz.	306
,, *Pimentæ*	½ to 2 oz.	
,, *Rosæ*	1 to 2 oz.	
,, *Sambuci*		
Araroba		118
Arbor Vitæ		356
Arbutin	15 gr.	369
Areca	2 to 6 dr.	10
Argenti et Potassii Nitras		76
,, Injectio Hypodermica	2 to 10 m.	76
,, *Nitras*	1-6 to 1-3 gr.	76
,, *Oxidum*	½ to 2 gr.	
Ari Succus	1 dr.	359
Arsenic, White	1-60 to 1-12 gr.	77
Arsenical Cigarettes		311
Arsenii Iodidum	1-30 gr.	78
Arsenious Acid	-60 to 1-12 gr.	77
Arsenium		77
Asafœtida	5 to 20 gr.	
Asclepias Incarnata		369
,, Cornuti		369
,, Syriaca		369
,, Tuberosa		369
Aseptin Amycos		23
Aseptol		33
Asparagin	1 to 2 gr.	79
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Zinc Sulphate, ½ gr. and 1 gr.		
Zinc Sulphate, ½ gr. Belladonna, Alc. Ext., 1 gr.		
Zinc Sulphate, 1 gr. Belladonna, Alc. Ext., 1 gr.		
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,, Cocainæ Hydrochloratis	1-6 gr.	142
,, Cupri Sulphatis	1-10 gr. and 1-6 gr.	
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,, Acidi Tannici, 3 gr. to 1 oz. T.H.		
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,, Potassii Permanganatis, 1-20 gr. in 1 oz. T.H.		
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,, Sodii Bicarb, 30 gr. in 1 oz. T.H.		
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,, *Scammoniæ*	10 to 30 gr.	
,, *Sennæ*	60 to 120 gr.	
,, *Sulphuris*	60 to 120 gr.	
,, *Terebinthinæ*	60 to 120 gr.	
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Conine	¼ gr. increased	157
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„ *Granati Radicis*	1 to 2 oz.	
„ *Hæmatoxyli*	1 to 2 oz.	
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„ *Papaveris*, 1 in 10		
„ *Pareiræ*	1 to 2 oz.	
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„ *Sarsæ*	2 to 10 oz.	
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,, ,, ,, Insipidum	10 to 60 m.	327
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,, *Colocynthidis Compositum*	3 to 10 gr.	
,, Convallariæ	2 to 8 gr.	159
,, ,, Fluidum	5 to 15 m.	159
,, *Conii*	2 to 6 gr.	
,, Cornus Fluidum, U.S.	30 to 75 m.	370
,, Coto Liquidum	2 to 6 m.	160
,, Damianæ Liquidum	1 to 2 dr.	166
,, Digitalis, U.S., semi-alcoholic	1-6 to ½ gr.	
,, ,, Fluidum, ,, ,,	1 to 20 m.	
,, *Ergotæ Liquidum*	10 to 60 m.	173
,, Erythroxyli Fluidum	½ to 2 dr.	135
,, Eucalypti Gummi Liquidum	20 to 60 m.	181
,, Eupatorii Fluidum, U.S.	10 to 60 m.	370
,, Euphorbiæ Piluliferæ	½ to 1½ gr.	183
,, *Filicis Liquidum*	15 to 30 m.	
,, Frangulæ Liquidum	1 to 4 dr.	326
,, Fuci Vesiculosi	3 to 8 gr.	193
,, Fuci Vesiculosi Liquidum	1 to 2 dr.	193
,, Galii	5 to 20 gr.	371
,, *Gelsemii Alcoholicum*	½ to 2 gr.	195
,, *Gentianæ*	2 to 10 gr.	
,, *Glycyrrhizæ*	5 to 60 gr.	201
,, *Glycyrrhizæ Liquidum*	20 to 60 m.	201
,, Grindeliæ	2 to 8 gr.	203
,, Grindeliæ Liquidum	10 to 30m.	203
,, Hamamelidis Liquidum	2 to 5m.	205
,, *Hæmatoxyli*	10 to 30 gr.	
,, ,, Liquidum	½ to 1 dr.	205
,, Hydrastis Liquidum	5 to 20 m.	211

Name.	Dose.	Page
Extractum *Hyoscyami*	5 to 10 gr.	
,, *Jalapæ*	5 to 15 gr.	
,, *Jaborandi*	2 to 10 gr.	232
,, ,, Fluidum	10 to 60 m.	232
,, Kava-Kava Liquidum	15 to 60 m.	371
,, *Krameriæ*	5 to 20 gr.	
,, *Lactucæ*	5 to 15 gr.	
,, *Lupuli*	5 to 15 gr.	
,, Maidis	20 gr.	371
,, ,, Fluidum	1 dr.	371
,, Malti	1 to 4 dr.	243
,, Malti Ferratum	1 to 4 dr.	243
,, Malti cum Oleo Morrhuæ	1 to 4 dr.	244
,, Menyanthis et Glycyrrhizæ Liquid	½ oz.	248
,, *Nucis Vomicæ*	1-8 to ½ or 1 gr.	264
,, *Opii*	½ to 2 gr.	9
,, *Opii Liquidum*	10 to 40 m.	9
,, Pancreatis (Fairchild)		273
,, *Papaveris*	2 to 5 gr.	
,, *Pareiræ*	10 to 30 gr.	
,, *Pareiræ Liquidum*	30 to 120 m.	
,, *Physostigmatis*	1-16 to ¼ gr.	294
,, Pini Sylvestris		303
,, Piscidiæ Erythrinæ Fluidum	20 to 120 m.	305
,, *Quassiæ*	3 to 5 gr.	
,, Rhamni Frangulæ	15 to 60 gr.	326
,, *Rhamni Frangulæ Liquidum*	1 to 4 dr.	326
,, *Rhei*	5 to 15 gr.	
,, *Sarsæ Liquidum*	2 to 4 dr.	9
,, Sethiæ Liquidum	20 to 40 m.	372
,, Stillingiæ Fluidum	15 to 60 m.	341
,, *Stramonii*	¼ to ½ gr.	
,, *Taraxaci*	5 to 30 gr.	
,, *Taraxaci Liquidum*	½ to 2 dr.	9
,, Tritici Liquidum	1 to 6 dr.	373
,, Viburni Prunifolii	2 to 10 gr.	374
,, Vincæ Majoris Liquidum	1½ dr.	374
,, Yerbæ Santæ	10 to 40 m.	374
Emulsion	1 to 3 dr.	275
ling's Solution		351
,, Solution, Glass Capsules of		352
,, ,, Pellets of		352
Bovinum Purificatum	5 to 10 gr.	
ments—Digestive		272, 276, 282
Arsenias	1-16 to ½ gr.	78
Bromidum	3 to 10 gr.	185

NAME.	DOSE.	PAGE
Ferri Carbonas Saccharata	5 to 30 gr.	
,, *et Ammonii Citras*	5 to 10 gr.	
,, et Ammonii Sulphas	3 to 10 gr.	193
,, *et Quininæ Citras*	5 to 10 gr.	318
,, et Strychninæ Citras	3 to 8 gr.	344
,, Fluoridum	$\frac{1}{20}$ to $\frac{1}{2}$ gr.	36
,, Hypophosphis	1 to 5 gr.	391
,, Iodidum	1 to 5 gr.	
,, Lactas	2 to 10 gr.	37
,, Oxidum Magneticum	5 to 10 gr.	
,, Perchloridum	2 to 8 gr.	156
,, Peroxidum Humidum	2 to 4 dr.	
,, ,, *Hydratum*	5 to 30 gr.	
,, *Phosphas*	2 to 10 gr.	190
,, ,, U.S.	2 to 8 gr.	190
,, Pyrophosphas, U.S.	2 to 8 gr.	293
,, Quininæ et Strychninæ Citras	3 to 10 gr.	344
,, Salicylas	3 to 10 gr. or more.	46
,, Succinas		313
,, *Sulphas*	1 to 5 gr.	
,, *Sulphas Exsiccata*	½ to 3 gr.	
,, *Sulphas Granulata*	1 to 5 gr.	
Ferrier's Snuff		92
Ferro-Alumen	3 to 10 gr.	193
Ferrocyanide of Potassium Papers		354
Ferrocyanic Acid Test Pellets		352
Ferri Peptonati, Liquor	1 to 4 dr.	190
Ferrum Redactum	1 to 5 gr.	9
Ferrum Tartaratum	5 to 10 gr.	
Fir Wool		303
,, Oil, and Extract		303
Fleming's Tincture of Aconite	1 to 5 m.	55
Flowers of Camphor	1 to 10 gr.	102
Fluoric Acid		366
Floride of Ammonium	1-24 to [illegible] gr.	36
,, Iron	1 20 to ½ gr.	36
,, Quinine	1 to 2 gr.	36
Fomentum Belladonnæ		68
Formyl, Terchloride of	1 to 10 m.	113
Fossiline		278
Franciscea Uniflora		371
French Chalk		238
,, Oil of Turpentine	30 m. every ½ hour	265
Fructus Emblicæ	1 to 2	172
Fuchsine	½ to 4 gr.	128
Fucus Vesiculosus		193

NAME.	DOSE.	PAGE
Fuller's Earth		338
Fumus Potassii Nitratis		310
Fungus Laricis		63
Galbanum	5 to 15 gr.	
Galium Aparine		370
Galla	5 to 15 gr.	
Gamboge	1 to 5 gr.	
Gargarisma Chlori		385
Gaultheriæ, Oleum	10 m.	44
Gauze, Alembroth		210
,, Carbolic Acid		27
,, Eucalyptus		179
,, Thymol		358
Gelato-Glycerine		197
Gelatum Zincum...		366
Gelatum Petroleum		277
Gelidium Corneum		366
Gelsemina (Alkaloid)	1-60 to 1-20 gr.	194
Gelseminæ Hydrochloras	1-60 to 1-20 gr.	194
Gelsemin (Eclectic)	½ to 2 gr.	195
Gelsemium	5 to 30 gr.	194
Geoffroya Inermis	20 to 30 gr.	379
Geoline		278
Geranium Maculatum		370
Gingerin	¼ to 1 gr.	196
Glass, Soluble, or Water Glass		338, 339
Glonoine		250
Glycerine Jelly		197
Glycerinum	10 m. to 2 dr.	196
,, Acidi Borici, 1 in 5		22
,, *Acidi Carbolici*, 1 to 4		28, 196
,, *Acidi Gallici*, 1 to 4		196
,, *Acidi Tannici*, 1 to 4		196
,, *Aluminis*, 1 to 5		196
,, ,, et Acidi Tannici		197
,, *Amyli*, 1 to 8		196
,, Belladonnæ...		88
,, Bismuthi Nitratis, 60 gr. to 1 oz.		198
,, *Boracis*, 1 to 6		196
,, Carmini		110
,, cum Aquâ Rosæ		198
,, Ferri Dialysati	30 to 60 m.	189
,, Hydrargyri Perchloridi		208
,, Iodi		227
,, Olei Ricini, 1 in 2		198
,, Pepsinæ Acidum...	1 to 2 dr.	283

Name.	Dose.	Page
Ferri Carbonas Sacch		
,, *et Ammonii*		198
,, et Amm		360
,, et Quin		196
,, et St		199
,,	5 to 20 gr.	200
,,	½ to 5 gr.	201
		118
		202
	10 to 30 gr.	211
		202
,,		202
,, Acidi Bo ent.)		203
,, Acidi Carbolici (5 per cent.)		28
,, ,, Salicylici (4 per cent.)		45
,, Camphoræ Salicylatæ (8 per cent.)		105
,, Ferri Perchloridi		187
,, Iodoformi (4, 10, and 50 per cent.)		223
Gouania Domingensis		370
Gouttes de Baumé	1 to 3 m.	264
Granular Effervescent		
Antipyrin	1 dr. or more.	180
Carlsbad Salt	,,	340
Citrate of Bismuth	,,	
,, ,, Caffeine	,,	96
,, ,, Iron	,,	
,, ,, ,, and Quinine	,,	318
,, ,, Lithium	,,	
,, ,, Magnesium	,,	
,, ,, Potassium	,,	
Citro-Tartrate of Sodium	,,	
Hydrobromate of Caffeine	,,	96
Phosphate of Sodium	,,	338
Pullna Salt	,,	340
Salicylic Acid	,,	45
Salicylate of Lithium	,,	241
Salicylate of Sodium	,,	47
Sodio-Magnesian Aperient	,,	340
Sulphate of Sodium	,,	339
Vichy Salt	,,	
Granules de Digitaline	2 to 4	167
Green Mountain Cure		311
Grey Oil (Mercurial)		306
Grindelia		203
Guaiacate of Lithium	5 gr.	241
Guaiacol	¼ to 2 m.	163
Guarana	10 to 60 gr.	204
Guaranine	¼ to 5 gr.	101, 204

NAME.	DOSE.	PAGE
Gansberg's Test		373
Gurjun Balsam	to 2 dr.	96
Guttæ Atropinæ Sulphatis, 1 gr. in 1 oz.		83
,, Daturinæ, 2 gr. in 1 oz.		166
,, Duboisinæ Sulphatis		169
,, Eserinæ, R.O.H., 2 gr. in 1 oz.		296
,, Homatropinæ		85
,, Physostigminæ		296
,, ,, Fortiores		296
,, *Pilocarpinæ*, 2 gr. in 1 oz.		234
,, Zinci Chloridi		364
,, ,, ,, cum Cocaina		364
Gynocardia Odorata		270
Gypsum		238
Hæmatoxylin		205
Hæmatoxylum		205
Hair Dye of Bismuth		90
,, ,, of Hydrogen Peroxide		213
,, ,, of Potassium Permanganate		311
,, ,, of Silver Nitrate		76
Haller's Acid Elixir	2 to 8 m.	171
Hamamelidin, *syn.* Hamamelin	½ to 2 gr.	205
Hamamelis		205
Hartmann's Wood Wool		304
Haustus Santonini et Olei Ricini		332
Hazeline		205
Ieberden's Ink	1 to 2 oz.	125
Ieim's Pills, see Pilulæ.		
Ielenin	1-3 to 2 gr.	220
Iemlock Pitch Bark		368
Ienna		370
Iimrod's Cure for Asthma		311
[istological Preparations		372
[offman's Anodyne		59
[omatropinæ Hydrobromas	1-120 to 1-20 gr.	84
,, Hydrochloras	1-120 to 1-20 gr	84
,, Salicylas	1-120 to 1-20 gr.	84
omatropine		84
omolle's Granules of Digitalin		167
uile de Cade		307
uxham's Tincture of Bark	½ to 2 dr.	125
ydramyl Ether		58
ydrargyri Bichloridum = Perchloridum	1-16 to 1-8 gr.	208
,, Carbolas	½ to 2 gr.	207
,, Chloridum = Subchloridum	½ to 5 gr.	
,, Chloridum Corrosivum, U.S. = Perchloridum.		208

NAME.	DOSE.	PAGE
Hydrargyri Chloridum Mite, U.S.=Subchloridum.		
,, Cyanidum	1-20 to 1-6 gr.	207
,, *Iodidum Rubrum*	1-32 to 1-8 gr.	207
,, ,, Viride	1-6 to 1 or 3 gr.	208
,, Lanolinum		240
,, *Nitriso-Oxidum*	¼ to 1 gr.	
,, Oleatum, 5, 10, and 20 per cent.		266
,, ,, cum Morphina		266
,, Oleo-Palmitas		267
,, *Oxidum Rubrum*	¼ to 1 gr.	
,, *Perchloridi Liquor* ...	30 to 120 m.	208
,, *Perchloridum*	1-16 to 1-8 gr.	208
,, *Pilula*	3 to 8 gr.	
,, Salicylas	¼ gr.	210
,, *Subchloridi, Co. Pilula*	5 to 10 gr.	
,, *Subchloridum*	½ to 5 gr.	
,, Tannas	1½ gr. thrice daily	210
Hydrargyrum		206
Hydrargyrum cum Cretâ	3 to 8 gr.	
,, Bijodatum, P.G.=Iodid. Rub.		207
,, Jodatum, P.G.=Iodid. Vir.		208
Hydrastina (Alkaloid)	½ to 5 gr.	211
Hydrastin (Eclectic)	2 to 6 gr.	212
Hydrastinæ Hydrochloras	½ to 6 gr.	212
Hydrastis	10 to 30 gr.	211
Hydrate of Amylene	30 to 80 m.	70
,, Benzoyl	3 to 15 gr.	19
,, Bromal	2 to 5 gr.	92
,, *Chloral*	5 to 30 gr.	111
Hydride of Amyl, or Hydramyl		155
Hydriodic Ether		61
Hydrobromic Acid, Diluted	20 to 60 m.	35
,, Ether		60
Hydrochinon		215
Hydrochloric Acid	2 to 10 m.	
Hydrocotyle Asiatica	4 to 10 gr.	370
Hydrocyanic Acid, diluted	2 to 8 m.	
Hydrofluoric Acid		36
Hydrogen, Peroxide of	½ to 2 dr.	213
Hydroquinine		123
Hydroquinone		215
Hydroxyl, Solution of	½ to 2 dr.	213
Hygrine		138
Hymenodictyon Excelsum		370
Hyoscina		80, 216
Hyoscinæ Hydrobromas	1-300 to 1-100 gr.	216

NAME.	DOSE.	PAGE
Hyoscinae Hydrochloras	1-300 to 1-100 gr.	216
,, Hydriodas	1-300 to 1-100 gr.	216
Hyoscyamina	1-120 to 1-40 gr. 80,	217
Hyoscyaminae Sulphas	1-120 to 1-40 gr.	217
Hyoscyamine	1-120 to 1-40 gr. 80,	217
,, Amorphous	1-16 to 1-8 gr.	217
,, Sulphate	1-120 to 1-40 gr.	217
Hyperosmic Acid, sol. 1 per cent.	3 m. daily	39
Hypobromite of Sodium, Solution		337
Hypnone	1½ to 5 m.	128
Hypodermic Lamels:—		
Apomorphine	1-10 gr.	74
Atropine	1-120 gr.	81
Caffeine	¼ gr.	96
Cocaine	¼ gr.	
Codeine	¼ gr.	153
Curara	1-20 gr.	165
Curarine	1-400 gr.	165
Digitalin	1-100 gr.	168
Ergotin	½ gr.	173
Hyoscine	1-200 gr.	216
Hyoscyamine	1-50 gr.	218
Morphine	¼ gr.	253
{ Morphine { Atropine	¼ gr. } 1-120 gr. }	81, 253
Morphine Tartrate	1-6 gr.	255
{ Morphine Tartrate { Atropine	1-6 gr. } 1-100 gr. }	255
Physostigmine	1-100 gr.	295
Pilocarpine	¼ gr.	234
Quinine	½ gr.	319
Sclerotinic Acid	1-16 gr.	175
Sparteine	1 gr.	372
Strychnine	1-60 gr.	345
Hypophosphites		299
Hyposulphite of Sodium	10 to 60 gr.	52
Ichthyol		219
Ignatia Amara Beans		264
Indigo-carmine Papers		352
Insin		342
Infusa		10
Infusum Abri		10
,, *Adonidis Vernalis*	4 dr.	386
,, *Anthemidis*	1 to 4 oz.	
,, *Aurantii*	1 to 2 oz.	
,, *Aurantii Compositum*	1 to 2 oz.	
,, *Buchu*	1 to 4 oz.	

NAME.	DOSE.	PAGE
Infusum Calumbæ	1 to 2 oz.	
,, *Caryophylli*	1 to 4 oz.	
,, *Cascarillæ*	1 to 2 oz.	
,, *Catechu*	1 to 2 oz.	
,, *Chiratæ*	1 to 2 oz.	
,, *Cinchonæ Acidum*	1 to 2 oz.	125
,, Cocæ	4 to 8 oz.	136
,, *Cuspariæ*	1 to 2 oz.	
,, *Cusso*	4 to 8 oz.	
,, *Digitalis*	¼ to ½ oz.	
,, *Ergotæ*	1 to 2 oz.	173
,, *Gentianæ Compositum*	1 to 2 oz.	
,, Gokhru	20 oz. daily.	202
,, *Jaborandi*	1 to 2 oz.	232
,, Kava-Kava	half a pint	371
,, *Krameriæ*	1 to 2 oz.	
,, *Lini*	*ad libitum.*	
,, *Lupuli*	1 to 2 oz.	
,, Malti	¼ to ½ oz.	241
,, *Maticæ*	1 to 4 oz.	
,, Menyanthis	2 to 6 oz.	247
,, *Quassiæ*	1 to 2 oz.	
,, *Rhei*	1 to 2 oz.	
,, *Rosæ Acidum*	1 to 2 oz.	
,, *Senegæ*	1 to 2 oz.	
,, *Sennæ*	1 to 2 oz.	
,, *Serpentariæ*	1 to 2 oz.	
,, *Uvæ Ursi*	1 to 2 oz.	
,, *Valerianæ*	1 to 2 oz.	
,, Vincæ Majoris	a wine-glassful	374
Ingluvin	5 to 10 gr.	220
Injectio Acidi Sclerotici Hypodermica	3 to 5 m.	175
,, Aconitinæ Hypodermica	1 to 4 m.	53
,, Antipyrin Hypodermica	8 to 30 m.	131
,, ,, et Cocainæ Hypodermica	8 to 30 m.	131
,, *Apomorphinæ Hypodermica*	2 to 8 m.	74
,, Argenti Hypodermica	2 to 10 m.	76
,, Atropinæ Hypodermica	1 to 4 m.	81
,, Caffeinæ Hypodermica	1 to 3 m.	98
,, Cocainæ Hydrochloratis Hypodermica, 1 in 20	2 to 10 m.	142
,, Codeinæ Hypodermica, 1 in 6	2 to 6 m.	153
,, Coninæ Hydrobromatis Hypodermica	1 to 3 m.	157
,, Cotoin Hypodermica	15 m.	160
,, Curaræ Hypodermica, 1 in 12	1 to 6 m.	165
,, *Ergotini Hypodermica*	3 to 10 m.	173
,, Ergotinini Hypoderm., 1 in 1,000	5 to 10 m.	175
,, Ferri Perchloridi, 60 gr. in 1 oz.		183

NAME.	DOSE.	PAGE
Injectio Gelsemine Hypodermica, 1 in 60...	1 to 3 m.	194
,, Homatropinæ Hypoderm., 1 in 120...	1 to 6 m.	85
,, Hydrargyri Hypodermica		206
,, Hydrarg. Iodidi Rub., 1 in 64 Sodii Iodidi, *q.s.*	2 to 6 m.	
,, Hyoscinæ Hypodermica	1 to 2 m.	216
,, Hyoscyaminæ Hypodermica ...	1 to 4 m.	217
,, Iodi Hypodermica Fortissima ...	3 to 5 m.	228
,, Morphinæ Acetatis Hypodermica, 1 in 6	1 to 3 m.	252
,, Morphinæ et Atropinæ Hypodermica	1 to 3 m.	252
,, *Morphinæ Hypodermica,* 1 in 10 ...	1 to 5 m.	251
,, Morphinæ Tartratis Hypodermica	1 to 6 m.	255
,, Nitroglycerini Hypodermica ...	1 to 4 m.	261
,, Physostigmatis Hypodermica ...	8 to 12 m.	295
,, Physostigminæ Salicylatis Hypodermica	1 to 6 m.	295
,, Pilocarpinæ Nitratis Hypodermica	2 to 6 m.	234
,, Quininæ Hydrobromatis Acidæ Hypodermica	3 to 12 m.	319
,, Quininæ Hydrochloratis Acidæ Hypodermica	3 to 12 m.	320
,, Quininæ Sulphatis Acidæ Hypodermica	4 to 18 m.	323
,, Strychninæ Nitratis Hypodermica	1 to 4 m.	345
,, Strychninæ Sulphatis Hypodermica	1 to 3 m.	345
Ink, Heberden's	1 to 2 oz.	125
Insufflatio Eucalypti Gummi, ¼ gr. in each		182
,, Iodoformi, 1 gr. in each		222
,, ,, Composita		222
Inula Helenium		220
Iodide of Ammonium	3 to 20 gr.	67
,, *Arsenium*	1-30 gr.	78
,, Ethyl Capsules, 5 m. in each		61
Iodized Starch	½ to 4 dr.	229
,, Starch, Paste of		230
,, Wool		228
Iodine		227
Iodized Phenol		28
Iodoform	½ to 3 gr.	221
,, Gauze, 10 per cent....		223
,, Pencils		223
,, Wool, 4, 10, and 50 per cent.		223
Iodoformum	½ to 3 gr.	221
,, Aromaticum		222

Name.	Dose.	Page
Iodoformum Præcipitatum	½ to 3 gr.	221
Iodo-Glycerine Solution, 10 gr. in 1 oz.		228
Iodo-Mercurate of Potassium, Papers of		353
,, ,, ,, Solution		353
Iodo-Vaseline		224
Iodol		226
Iodo-Salicylic Acid		227
Ipecacuanha	½ to 2 gr. expectorant 15 to 30 gr. emetic.	
Iridin (*Syn.* Irisin)	1 to 5 gr.	230
Iron Alum	3 to 10 gr.	193
,, Bromide of	3 to 10 gr.	185
,, Dialysed	10 to 30 m.	189
,, Perchloride of	2 to 8 gr.	186
,, *Phosphate of*	2 to 10 gr.	190
,, ,, U.S.	2 to 8 gr.	190
,, Pyrophosphate, U.S.	2 to 8 gr.	293
Jaborandi	5 to 60 gr.	231
Jacaranda Lancifoliata		371
,, Tomentosa		371
Jalapa	10 to 30 gr.	
Jalapæ Resina	2 to 5 gr.	
Jamaica Chewstick		370
,, Dogwood		305
Jambul		371
Japanese Aconite		368
,, Belladonna		372
,, Peppermint Oil		245
Jarisch's Ointment		42
Jatropha Curcas		371
Jequirity Seed		19
Juglandin	2 to 5 gr.	237
Jumble Beads		19
Juniper Catgut Tar		307
Kamala	30 to 120 gr.	
Kairin	5 to 8 or 15 gr.	133
Kaladana		372
Kaolin Præparatus		237
Kava-Kava		371
Keratin Coating for Pills		302
Kieselguhr		238
Kola Nut		95
Koromiko		371
Kreasote	1 to 3 m.	161
Lac Sulphuris	20 to 60 gr.	346
Lachnanthes Tinctoria		371

NAME.	DOSE.	PAGE
Lactate of Calcium	1 to 5 gr.	37
,, Iron	2 to 10 gr.	37
,, Quinine	1 to 5 gr.	320
,, Zinc	3 to 30 gr.	366
Lactic Acid	5 to 20 m.	37
,, ,, *Diluted*	30 to 120 m.	37
Lactopeptine	10 to 15 gr.	283
Ladies' Slipper	...	185
Lamellæ Atropinæ...	1-5000 gr.	81
,, *Cocainæ Hydrochloratis*	1-200 gr.	142
,, *Physostigminæ*	1-1000 gr.	295
Lanolinum...	...	239
,, Anhydricum	...	239
,, Hydrargyri...	...	240
Lapis Divinus	...	66
Larch Agaric	10 to 30 gr.	62
Lawsonia Inermis	...	370
Leptandrin	¼ to 2 gr.	240
Liebig's Extract of Beef	...	183
Liebreich's Pepsin-Essenz	1 to 2 dr.	283
Ligatures, Carbolised	...	27
Light Atropine	...	79
Lily of the Valley	...	168
Linctus Morphinæ	60 m.	252
Linimentum Aconiti	...	54
,, *Ammoniæ*	...	67
,, Atropinæ, 1 in 120	...	82
,, *Belladonnæ*	...	88
,, Belladonnæ Compositum	...	89
,, Capsici	...	109
,, *Chloroformi*, 1 in 2	...	117
,, Crinale	...	107
,, Hydrargyri Oleatis c. Morphina ...	...	260
,, *Iodi*, 1 in 8	...	227
,, Menthol	...	246
Lint, Marine	...	306
Linteum Acidi Borici	...	22
,, Ferri Perchloridi	...	187
Liquor, *Acidi Chromici*, 1 to 3	...	34
,, ,, Osmici, 1 per cent. ...	2 to 10 m.	40
,, ,, Picrici	½ to 3 dr.	41
,, Æthyl Nitritis	10 to 60 m.	59
,, Aluminii Acetici	...	65
,, ,, Chloridi	...	65
,, *Ammoniæ*	10 to 20 m.	67
,, ,, *Fortior*	3 to 6 m.	68

NAME.	DOSE.	PAGE
Liquor Ammoniæ Fortissimus		68
" *Ammonii Acetatis*	2 to 6 dr.	68
" " *Acetatis Fortior*	25 to 75 m.	68
" " *Citratis*	2 to 6 dr.	68
" " *Citratis Fortior*	½ to 1½ dr.	68
" *Antimonii Chloridi*		72
" *Arsenicalis*	2 to 8 m.	77
" Arsenii Bromatus	1 to 5 m.	77
" " *et Hydrargyri Iodidi*	5 to 15 m.	78
" *Arsenici Hydrochloricus*	2 to 8 m.	77
" Atropinæ Salicylatis		81
" " *Sulphatis*, 1 per cent.	1 to 4 m.	82
" *Bismuthi et Ammonii Citratis*	30 to 60 m.	90
" *Calcii Chloridi*	15 to 50 m.	99
" *Calcis*	1 to 4 oz.	11
" " *Saccharatus*	15 to 60 m.	
" Carbonis Detergens		127
" Carmini, 40 gr. to 1 oz.		110
" *Chlori*	10 to 20 m.	
" Chloromorphiæ	5 to 20 m.	117
" Cocci		110
" Cocainæ Hydrochloratis, 4 and 20 per cent.		142
" *Epispasticus*		108
" Ergotæ Aceticus	10 to 60 m.	175
" " Ammoniatus	10 to 60 m.	175
" *Ferri Acetatis*	5 to 30 m.	11
" " " *Fortior*	1 to 8 m.	11
" " Albuminati	1 to 4 dr.	190
" " Chloroxidi	10 to 30 m.	188
" " *Dialysatus*	10 to 30 m.	189
" " Hypophosphitis Compositus	60 m.	291
" " " Fortis		291
" " Peptonati	1 to 4 dr.	190
" " *Perchloridi*	10 to 30 m.	186
" " " *Fortior*	2 to 8 m.	186
" " *Pernitratis*	10 to 40 m.	
" Gelseminæ Hydrochloratis, 1 in 60		194
" *Hydrargyri Perchloridi*	½ to 2 dr.	208
" Hyoscinæ Hydrobromatis	3 to 15 m.	216
" Hypophosphitum Compositus		291
" *Iodi*	5 to 30 m.	227
" Jaborandi (Ext. Fluid)	10 to 60 m.	232
" *Lithiæ Effervescens*	5 to 10 oz.	
" Magnesii Boratis		25
" " *Carbonatis*	1 to 2 oz.	
" " *Citratis*	5 to 10 oz.	

NAME.	DOSE.	PAGE
Liquor Morphinæ Acetatis, 1 per cent.	10 to 60 m.	253
,, ,, *Bimeconatis* ,,	5 to 40 m.	254
,, ,, *Hydrochloratis* ,,	10 to 60 m.	254
,, ,, Sulphatis ,,	60 m.	255
,, Nitroglycerini	½ to 2 m. or more	261
,, Pancreaticus	1 to 2 dr.	278
,, Pepticus	1 to 2 dr.	283
,, Picis Carbonis		127
,, ,, ,, et Ligni		127
,, ,, Ligni		127
,, Picrotoxini Aceticus	2 to 12 m.	292
,, Plumbi Lactatis		199
,, *Potassæ*	15 to 60 m.	
,, Potassæ Arsenitis	3 to 8 m.	77
,, *Potassii Permanganatis*	2 to 4 dr.	311
,, *Sodæ*	10 to 30 m.	
,, *Sodii Arseniatis*	5 to 10 m.	79
,, ,, *Chlorinatæ*	10 to 20 m.	
,, ,, *Ethylatis*		336
,, Sodii Carbolatis		32
,, Stillingiæ Compositus	1 to 4 dr.	341
,, *Strychninæ Hydrochloratis*	4 to 10 m.	344
,, Thymol, 1 in 800		357
,, *Zinci Chloridi*, 4 m. = 3 gr.		364
Liquorice		200
,, *Compound Powder of*	10 to 60 gr.	201
,, Indian		19
Lithii Benzoas	2 to 10 gr.	240
,, Bromidum	5 to 15 gr.	241
,, *Carbonas*	3 to 6 gr.	241
,, *Citras*	5 to 10 gr.	241
,, ,, Effervescens	1 to 2 dr.	241
,, ,, Tablets of		347
,, Guaiacas	2 to 5 gr.	241
,, Hippuras	5 to 20 gr.	241
,, Salicylas	5 to 20 gr.	241
,, Sulpho-Ichthyolas	10 to 30 gr.	219
Litmus Solution		16
London Paste		336
Lotiforms of Sublimated Wool		209
Lotio Acidi Benzoici		20
,, ,, Borici		22
,, ,, Carbolici		27
,, Calaminæ		238
,, Calcis Sulphurati		101
,, Hamamelidis		206

NAME.	DOSE.	PAGE
Mistura Gentianæ Composita, P.L.	½ to 2 oz.	
Inf. Gent. Co., 12 oz. Inf. Sennæ Co., 6 oz. Tr. Card. Co., 2 oz.		
,, *Guaiaci*	½ to 2 oz.	
,, Olei Santali	1 oz.	272
,, *Scammonii*	½ to 2 oz.	
,, *Sennæ Composita*	1 to 1½ gr.	
,, *Spiritus Vini Gallici*	1 to 2 oz.	
,, Terebinthinæ Chiæ	1 oz.	350
,, ,, ,, sine Sulphure		350
,, ,, ,, cum Resorcin		350
Mollinum		250
,, Hydrargyri		250
,, Potassii Iodidi		250
Momordicin	1-40 to 1-6 gr.	170
Monobromated Camphor	2 to 10 gr.	104
Morphina	1-10 to ½ gr.	250
Morphinæ Acetas	1-8 to ½ gr.	251
,, Hydrobromas	1-8 to ½ gr.	253
,, *Hydrochloras*	1-8 to ½ gr.	253
,, Meconas	1-8 to ½ gr.	254
,, Oleatum, 1 in 60		251
,, *Sulphas*	1-8 to ½ gr.	255
,, Tartras	1-8 to ½ gr.	255
Morphine	1-10 to ½ gr.	250
Morrhuæ Oleum		271
Morrhuol		271
Moschus	5 to 10 gr.	
Mucilago Acaciæ, 2 fl. oz.=1 oz, gum	*ad libitum.*	
,, *Amyli*, 12 gr. to 1 oz.		
,, *Tragacanthæ*	1 dr. to 1 oz.	360
Mullein, Great		363
Mulls, Plaster		376
Muscarinæ Nitras	½ to ¾ gr.	256
Mynsicht's Elixir of Vitriol	3 to 10 m.	171
Myoctonine		368
Myrabolanus Emblica	1 or 2	172
Myrica Gale		369
Myricin	2 to 5 gr.	256
Myrrh	10 to 20 gr.	
Myrtus Chekan		369
Naphthalin	2 to 10 gr.	257
,, Hydrochlorate	3 to 12 gr.	258
Naphthol, α- and β-		257
Narceina	1-8 to 1 gr.	258
Narcotina	1 to 3 gr.	259

NAME.	DOSE.	PAGE
Nasal Douches—Collunaria		
Nataloin	1 to 4 gr.	64
Nebula Acidi Lactici, 1 in 16		37
,, Ferri Perchloridi, 3 gr. in 1 oz.		187
Nectandra Rodiæi		86
Nepaul Aconite		368
Nepenthe=strength of Tr. Opii.	5 to 30 m.	
Nessler's Solution for Ammonia		354
Nicotina	1-6 to 1 gr.	259
Nitrite of Amyl	½ to 1 m. by mouth 2 to 5 m. inhaled	68
Nitroglycerine	1-200 to 1-50 gr. or more	260
,, Solution	½ to 2 m. or more	261
,, *Tablets*	1-200, 1-100, 1-50 & 1-25 gr. in each	261
Nitrometer, Allen's		68
Nitrous Ether		59, 63
,, Oxide Gas		67
Nux-vomica	1 to 5 gr.	264
Oil of Wine		59
Oiled Silk Protective		28
Oleanodyne		265
Oleata		265
Oleate of Copper		265
,, *Mercury*		266
,, ,, and Morphine		266
,, *Zinc*		269
Oleatum Aconitinæ, 1 gr. in 50 m.		54
,, Atropinæ, 1 in 40		82
,, Cocainæ		149
,, *Hydrargyri*, 5, 10, and 20 per cent.		266
,, ,, cum Morphina		266
,, Morphinæ, 1 gr. in 60 m.		251
,, Plumbi		263
,, Quininæ, 1 in 4		265
,, Veratrinæ, 1 in 50		365
,, *Zinci*		269
Oleic Acid		265
Oleum Æthereum		59
,, *Anethi*	1 to 3 m.	
,, *Anisi*	1 to 3 m.	
,, *Anthemidis*	2 to 5 m.	
,, Betulæ Pyroligneum		307
,, Cadinum		307
,, *Cajuputi*	1 to 4 m.	
,, *Carui*	1 to 5 m.	
,, *Caryophylli*	1 to 2 m.	

NAME.	DOSE.	PAGE
Oleum Cinnamomi	1 to 3 m.	
,, *Copaibæ*	5 to 20 m.	
,, *Coriandri*	1 to 5 m.	
,, *Crotonis*	1-3 to 1 m.	
,, *Cubebæ*	5 to 20 m.	
,, cum Cocaina, 2 per cent.		140
,, Deelinæ		281
,, *Eucalypti*	1 to 5 m.	179
,, Fagi Pyroligneum		307
,, Gaultheriæ	10 m.	44
,, Gynocardiæ	2 to 15 gr.	270
,, Homatropinæ cum Cocaina		85
,, *Juniperi*	3 to 5 m.	
,, *Lavandulæ*	1 to 5 m.	
,, *Limonis*	1 to 5 m.	
,, *Menthæ Piperitæ*	2 to 5 m.	
,, ,, *Viridis*	2 to 5 m.	
,, *Morrhuæ*	1 to 8 dr.	271
,, ,, cum Æthere	2 dr.	58
,, ,, cum Quinina	1 to 4 dr.	265
,, ,, Phosphoratum	1 to 4 dr.	287
,, *Myristicæ Expressum*	1 to 5 m.	
,, Nitroglycerini, 1 per cent.	1 to 2 m.	261
,, *Olivæ*	½ to 1 oz.	
,, *Phosphoratum*	1 to 4 m.	287
,, Picis Rectificatum		306
,, *Pimentæ*	1 to 5 m.	
,, Pini Pumilionis		304
,, ,, *Sylvestris*		304
,, *Ricini*	1 to 8 dr.	
,, *Rosmarini*	1 to 5 m.	
,, Rusci Pyroligneum		307
,, *Rutæ*	1 to 5 m.	
,, *Sabinæ*	1 to 5 m.	
,, *Santali*	10 to 30 m.	271
,, Staphisagriæ		167
,, *Terebinthinæ*	10 m. to 4 dr.	348
,, ,, Gallicum	30 m. every ½ hour.	285
Ophthalmic Discs:—		
Alum	1-250 gr.	
Atropine	1-250 gr.	81
,, B.P.	1-5000 gr.	81
Borax	1-250 gr.	
Cadmium Sulphate	1-250 gr.	
Cocaine	1-100, 1-50 gr.	142
,, B.P.	1-200 gr.	142

NAME.	DOSE.	PAGE
Ophthalmic Discs :—		
Cocaine Atropine	1-200 gr. 1-5000 gr.	81
Cocaine Homatropine	1-200 gr. 1-500 gr.	85
Cocaine Homatropine	1-200 gr. 1-200 gr.	85
Cocaine Physostigmine	1-200 gr. 1-1000 gr.	
Copper Sulphate	1-250 gr.	
Daturine	1-5000 gr.	166
Duboisine	1-5000 gr.	169
Gallic Acid	1-250 gr.	
Gelsemine	1-500 gr.	195
Homatropine	1-5000 gr.	85
Hyoscine	1-500 gr.	216
Hyoscyamine	1-5000 gr.	218
Iodoform	1-1000 gr.	223
Lead Acetate	1-500 gr.	
Lead Opium	1-500 gr. 1-250 gr.	
Mercuric Chloride	1-100,000 gr.	208
Morphine	1-500 gr.	253
Morphine Atropine	1-500 gr. 1-5000 gr.	81, 253
Physostigmine	1-500, 1-250 gr.	295
,, B.P.	1-1000 gr.	295
Pilocarpine	1-500 gr.	231
Potassium Nitrate	1-250 gr.	311
Silver Nitrate	1-500 gr.	77
Thymol	1-1000 gr.	357
Zinc Sulphate	1-250 gr.	367
Zinc Sulphate Opium	1-250 gr. 1-250 gr.	367
Opium	½ to 2 gr.	12
Ordeal Bark		176
Oro-nasal inhalations		163
Orris Root		238
Orthoxyphenylsulphurous Acid		33
Osmic Acid, sol. 1 per cent.	2 to 10 m. hypod.	39
Osmium Tetroxide		39
Curari	1-20 to ½ gr.	164
Oxide of Ethyl	20 to 60 m.	56
Oxychloride of Bismuth	5 to 20 gr.	91
,, ,, Iron		188
Oxychloride of Zinc		364
Oxygen		215

NAME.	DOSE.	PAGE
Oxygen Water		215
,, Ethereal		215
Oxyiodide of Bismuth	5 to 10 gr.	91
Oxymel	1 to 2 dr.	
,, *Scillæ*	½ to 1 dr.	
Ozokerine		278
Ozone Papers		310
Ozonic Ether	½ to 1 dr.	214
Ozonized Inunction (Day)		214
Pagenstecker's Ointment		211
Pancreas		272
Pancreatic Diastase		272
,, Emulsion	1 to 3 dr.	274
Pancreatine	2 to 4 gr.	273
Pancreatised Farinaceous Food		275
Papain	1 to 8 gr.	275
Papaverina	1-12 to 1-3 gr.	276
Papayotin	1 to 8 gr.	275
Paracoto Bark		161
Paracotoin	1½ to 3 gr.	161
Paraffin Ointment		277, 281
Paraffinum Durum		20, 276
,, *Molle*		20, 277
Paraldehyde	15 to 50 m.	63
Parrish's Chemical Food	1 dr.	191
Pasta Iodi et Amyli		230
,, Londinensis		336
,, Viennensis		336
,, Zinci Chloridi (Mid. Hosp.)		365
Pastilles, Asthmatic		310
Pastillus Acidi Borici, 2 gr. in each		22, 200
,, Acidi Carbolici, ½ gr. in each		28, 200
,, Aconiti Tincturæ, 1 m. in each		54, 200
,, Ammonii Chloridi, 2 gr. in each		200
,, Bismuthi Carbonatis, 3 gr. in each		200
,, Bismuthi Carbonatis cum Morphinæ Acetate, 3 gr. and 1-40 gr.		200
,, Bismuthi Carbonatis cum Potassii Chlorate, 3 and 2 gr.		200
,, Cascara Sagrada	2½ gr.	327
,, Cocæ Extracti, 2½ gr.		136, 200
,, Cocainæ Hydrochloratis, 1-20 gr. in each		142, 200
,, ,, et Morphinæ		142, 200
,, Codeinæ	1-8 gr. in each	154, 200
,, Hydrargyri Perchloridi, 1-20 gr., cum Potassii Chloratis, 3 gr.		200

NAME.	DOSE.	PAGE
Pastillus Iodoformi, 1 gr. in each		200, 223
,, Morphinæ Acetatis, 1-40 gr. in each		200
,, Potassii Chloratis, 2 gr. in each		200
,, Thymol, 1-32 gr. in each		200, 358
Pastils		200
Paullinia Sorbilis		204
Pavy's Cupric Test		352
Pelletierina	3 to 6 gr.	281
Pelletierinæ Hydrobromas	5 to 8 gr.	282
,, Sulphas	5 to 8 gr.	281
,, Tannas	5 to 8 gr.	282
Pentyl Hydride, or Pentylene		155
Pepsin	2 to 5 gr.	282
,, Tablets, 3 gr. in each	1 with meals	284
,, ,, with Bismuth	,,	284
Pepsina Amylacea	5 to 15 gr.	283
,, Porci (Beale's)	2 to 5 gr.	283
,, Saccharata	5 to 15 gr.	283
Pepsin-Essenz (Liebreich's)	1 to 2 dr.	283
Peptone		284
,, Bile Test		324
Peptonised Beef		284
,, ,, Jelly		274
,, ,, Suppositories		284
,, Bismuth	80 gr.	92
,, Iron, Solution of	1 to 4 dr.	190
,, Milk		273
Peptonoids of Beef		284
Periwinkle		374
Perles of Apiol	1 or 2	73
,, Carbolic Acid	1 or 2	28
,, Chloroform	1 or 2	117
,, Ether, 3 m. in each	1 to 4	58
,, Monobromated Camphor, 2 gr.	1 to 3	104
,, Phosphorated Oil, 1-64 gr.	1 or 2	287
,, ,, ,, 1-32 gr.	1 or 2	287
,, Tar	1 or 2	306
,, Quinine Sulphate	1½ gr. in each	322
Permanganates		311, 312
,, Hair Dye of		311
Perosmic Acid		39
Peroxide of Hydrogen	½ to 2 dr.	213
Pessaries, Gelatin Mass for		200
,, with Cacao Butter	15 gr., or 60 gr. in each	
Pessus Acidi Borici, 10 gr.		22
,, Acidi Tannici, 10 gr.		

NAME.	DOSE.	PAGE
Pessus Atropinæ, 1-20 gr.		82
,, Belladonnæ Ext. Rad., ½ and 1 gr.		89
,, Bismuthi Oxychloridi, 10 gr.		91
,, Cocainæ, ½ gr.		140
,, Coninæ, ½ m.		158
,, Iodoformi, 5 gr.		224
,, Plumbi Iodidi, 5 gr.		
,, {Plumbi Iodidi, 5 gr. Atropinæ, 1-20 gr.}		
,, Potassii Bromidi, 10 gr.		
,, ,, Iodidi, 10 gr.		
,, Zinci Oxidi, 10 gr.		
,, ,, Sulphocarbolatis, 10 gr.		
Petrolatum, U.S.P.		281
Petroleum		277
,, Cerate of		280
,, Jelly		277
,, Ointment		277, 281
,, Spirit		16, 155
Peumus Boldus		369
Pharbitis Nil		372
Phellandrium Aquaticum		372
Phenacetin	4 to 15 gr.	133
Phenic Acid	1 to 3 gr.	25
Phenol, Absolute	1 to 3 gr.	26
,, Iodized		28
Phenol Sodique		32
Phenolphthalein, as a Test		16, 355
Phenyl Alcohol	1 to 3 gr.	25
Phenyl-amine, *syn.* Aniline		128
Phenyl-hydrazine Hydrochlorate		352
Phosphates, Saccharated Wheat		294
Phosphorated Cod Liver Oil	1 to 4 dr.	287
,, Oil	1 to 4 m.	287
,, Suet, 1 in 10		288
Phosphorus	1-200 to 1-30 gr.	284
,, Red, or Amorphous	1 gr. (?)	286
,, Perles	1-64 and 1-32 gr. in each	287
,, Pills		287
Photoxylin		156
Physostigmatis Semen	1 to 4 gr.	294
Physostigmina	1-100 to 1-50 gr.	295
Physostigminæ Hydrobromas	1-60 to 1-20 gr.	295
,, Salicylas	1-60 to 1-20 gr.	295
,, Sulphas	1-60 to 1-20 gr.	296
Phytolaccin	1 to 5 gr.	297

NAME.	DOSE.	PAGE
α- Picoline		157
Picrate of Ammonium	1-8 to 1½	41
Picric Acid Test Solution		354
Picropodophyllin...		308
Picrotoxin...	1-120 to 1-20 gr.	297
Pigmentum Chloral et Camphoræ		112
„ Chrysarobin	1 to 9	121
„ Epispasticum		108
„ Ferri Perchloridi Dilutum	60 gr. in 1 oz.	186
„ Ferri Perchloridi Forte ...	120 gr. in 1 oz.	187
„ Iodi et Olei Picis		228
„ Picrotoxini...		298
„ Plumbi		198
Pills		299
Pilocarpina		233
Pilocarpinæ Hydrochloras	1-20 to ½ gr.	233
„ *Nitras*	120- to ½ gr.	233
Pilocarpine		232
Pilocarpus Pennatifolius	5 to 60 gr.	231
Pilulæ :—		
Acidi Carbolici, 2 gr.		29
Acidi Arseniosi, 1-120, 1-60, 1-50, 1-30, 1-20 gr. ...		
Aconiti Rad., 1-8 gr.	1 hourly	54
Aloes Barbadensis	5 to 10 gr.	
„ *et Asafœtidæ*	5 to 10 gr.	
„ *et Ferri*	5 to 10 gr.	
„ *et Myrrhæ*	5 to 10 gr.	13
Ext. Aloes Bbd. 2 gr. Ext. Nucis Vom. 1-6 gr. Ext. Belladonna. ½ gr.		
Ext. Aloes Soc., 1 gr. Ext. Nucis Vom., ¼ gr. Ext. Hyoscyami, 2 gr. ...	1 to 2	
Ext. Aloes Soc., 1 gr. Mastich., ½ gr. S.V. R., *q.s.*	1 with dinner	
Aloes Socotrinæ	5 to 10 gr.	
Aloës Soc., 1 gr. Rhei, 1 gr. Mastich, 1 gr.	1 with dinner	
Aloin, 1-10 and 1 gr.		
Arsenii et Hydrargyri Iodidi ...	1 or 2	78, 207
Asiaticæ		
Acidi Arseniosi, 1-15 gr. Pip. Nig. ¾ gr. G. Acaciæ, *q.s.*	1 or 2 daily	
Asafœtidæ Compositæ	5 to 10 gr.	

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Pilulæ :—		
Atropinæ, 1-100 gr. and 1-80 gr.	1 at bedtime	83
Atropinæ, Quininæ, et Arsenici,	every 3 or 4 hours	83
Belladonnæ Fol., 1-10 gr.	1 hourly	
Bismuthi Subnit., 5 gr.	1 or 2 after meals	
Bland's Ferruginous		
Butyl Chloral	3 gr.	94
Butyl-Chloral Hydr., 3 gr. Gelseminæ Hydrochl., 1-200 gr.		94
Calcis Sulphuratæ, 1-10 gr., 1-6 gr., ¼ gr., ½ gr., and 1 gr.		100
Calcii Phosph., 2 gr. Ferri Phosph., 2 gr. Acid Phosph., *q.s.*	1 thrice daily	
Cambogiæ Compositæ	5 to 10 gr.	
Camphoræ		103
,, Monobromatæ, 3 gr.		104
Catharticæ Compositæ, U.S.		
Ext. Col. Co., 1-3 gr. P. Ext. Jalap, 1 gr. Hyd. Subchlor., 1 gr. Cambogiæ, ¼ gr.	1 or 2	
Chloral Hydratis, 5 gr.	1 to 3	111
Chloral Hydratis, 5 gr. Morphinæ Hydrochl. 1-8gr.	1 or 2	
Cocainæ Hydrochloratis	1-5 gr.	142
Codeinæ Composita, ¼ to 2 gr.	1 thrice daily	154
Colchici Ext. Acet., ¼ gr. Opii, ¼ gr. Pil. Coloc. Co., 2 gr. Pil. Hydrarg., 1½ gr.	1 or 2	
Colocynthidis Compositæ	5 to 10 gr.	13
,, *et Hyoscyami*	5 to 10 gr.	
Conii Compositæ	5 to 10 gr.	
Coninæ Hydrobromatis, 1-3 gr.		158
Creasoti, 1 in 2	2 to 6 gr.	162
Digitalis Fol., ½ gr.	1 thrice daily	
Digitalis, Opii et Quininæ (Heim's)		
Digitalis, ½ gr. Opii Pulv., ¼ gr. Quininæ Sulph., 1 gr. Ipecac., ¼ gr.	1 thrice daily	
Ergotinæ		173
Euonymin, 2 gr.		183
Ferri Arsenicalis		78
Ferri (Bland)		
Ferri Sulph., 2½ gr. Pot. Carb., 2½ gr. Tragacanth, *q. s.*	3 thrice daily	

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Pilulæ :—		
Ferri (Blaud) B.P.C. Sulphate of Iron, 60 gr. Carbonate of Potassium, 36 gr. Sugar, in powder, 12 gr. Tragacanth, in powder, 4 gr. Glycerine } of each, 2½ m. Distilled Water } Water is better omitted.	in 24 pills.	
Ferri Carbonatis	... 5 to 20 gr.	
Ferri Hypophosphitis cum Strychnina	2 or 3 daily	293
Ferri Iodidi, 1 in 3½	... 3 to 8 gr.	
Ferri, Quininæ et Strychninæ Phosph.	2 or 3 daily	193
Ferri Sulph. Exsicc., 3 gr., 5 gr., cum Syr.	2 or 3 daily	299
Ferri Redacti, 1 gr. and 2 gr. ...	... 2 or 3 daily	
Gelsemin (Extractive), ¼, ½, 1 gr.	1 at bedtime	195
Grindeliæ Ext., 3 gr.	1 thrice daily	203
Hydrargyri (1 in 3), 1 gr., 2 gr., 3 gr., 4 gr., and 5 gr.		
Pil. Hydrarg., 2½ gr. Pil. Coloc. Co., 2½ gr.	... ... 1 or 2	
Pil. Hydrarg., 1½ gr. Pil. Coloc. Co., 2 gr. Ipecac., 1-3 gr. Ext. Hyoscyam., 1 gr.	... ... 1 or 2	
Pil. Hydrarg., 2½ gr. Pil. Rhei Co., 2½ gr.	... ... 1 or 2	
Pil. Hydrarg., 3 gr. Hydr. Subchlor., 1-3 gr. Ipecac., 1-3 gr.	... ... 1 or 2	
Pil Hydrarg., 3 gr. Opii Pulv., ¼ gr.	... ... 2 or 3 times a day	
Hydrarg. cum Creta, 1-3 gr.,	½ gr. every 1 or 2 hrs.	
Hydrarg. cum Creta, 2 gr. Pulv. Ipecac. Co., 3 gr.	... 1 or 2	
Hydrarg. Cyanidi, 1-12 gr. and 1-10 gr.	1 twice daily	
Hydrarg. Diureticæ. *St. Mary's Hosp.*		
Pil. Hydrarg., 1 gr. Pulv. Digital, 1 gr. Pulv. Scillæ, 2 gr.	... 1 or 2	
Hydrarg. Iodidi Rub., 1-16 gr....	... 1 twice daily	
Hydrarg. Iodidi Rubri, ¼ gr., et Potassii Iodidi, 4 gr.		207
Hydrarg. Iodidi Virid. ...	1-6 gr. and 1-3 gr.	208
Hydrarg. Iodidi Virid., ½ gr. Opii Pulv., ¼ gr.		
Hydrarg. Perchloridi, 1-12 gr., 1-20 gr. and 1-40 gr.		
Hydrarg. Subchloridi. ½ gr., 1 gr., 2 gr., and 3 gr.		
Hydrarg. Subchloridi Compositæ (1 in 5)	5 to 10 gr.	
Hydrarg. Subchlor., 2 gr. Opii Pulv., 1 gr.	... ... one	

Name.	Dose.	Page.
Pilulæ :—		
Hydrarg. Subchlor., 1 gr. Opii Pulv., ¼ gr.	every 4 hours	
Hydrarg. Subchlor., 2 gr. Pil. Coloc. Co., 2 gr. Ext. Hyoscyami, ½ gr.	1 or 2 at bedtime	
Hydrargyri Tannat.	1½ gr. thrice daily	210
Hydrastin, 2 gr.	twice a day	212
Hyoscinæ Hydrobrom. 1-200 gr.		216
Ichthyol, Lithium- and Sodium-	4 to 12 daily	219
Iodoformi, 2 gr.	twice or thrice a day	224
Ipecacuanhæ, 1-6 gr. and ½ gr.		
Ipecac. Co. Pulv., 5 gr.	1 or 2	
Ipecacuanhæ cum Scilla	5 to 10 gr.	
Iridin, 2 gr.	at bedtime	230
Kava-Kava Ext.	1 to 4	371
Menispermin, 2 gr.	at bedtime	245
Morphinæ Hydrochl., ¼ gr.		
Nitroglycerini, 1-100 gr. and 1-50 gr.		261
Nucis Vomicæ Ext., 1-10 gr. and ¼ gr.		
Olei Crotonis, 1 m.		
Opii Pulveris, gr. ½ and gr. 1		
Pepsin, 2 gr. and 3 gr.		283
Phosphori	2 to 4 gr.	287
Phosphori (Martindale), 1-100 gr., 1-50 gr., and 1-30 gr.	1 after meals	288
Phosphori cum Ferro	,,	288
Phosphori cum Ferro et Quinina	,,	289
Phosphori cum Ferro et Nuce Vomica	,,	289
Phosphori cum Ferro, Quinina et Strychnina	,,	289
Phosphori cum Quinina	,,	289
,, cum Strychnina	,,	289
Physostigmatis Extracti, 1-15 gr., 1-10 gr.		294
Picis Liquidæ, 2 gr.	1 or 2	306
Picrotoxini, 1-60 gr.	at bedtime	298
Pilocarpinæ Nitratis, 1-20 gr.		234
Plumbi cum Opio (P. Opii. 1 in 8)	3 to 5 gr.	
Podophyllin, 1-30 gr., 1-20 gr., 1-15 gr., ¼ gr., ½ gr., and 1 gr.		308
Podophyllin Composita (Resin ¼ gr.)	1 or 2 at bedtime	308
Podophyllin (Resin 1-12 gr.) et Quininæ	with dinner	309
Potassii Permanganatis, 1, 2, and 3 gr.		312
Quininæ, 1 gr., 2 gr., 3 gr., and 4 gr.		321
Quininæ cum Belladonna		89
Quininæ Salicylatis, 3 gr.	every 6 hours	321

NAME.	DOSE.	PAGE
Pilulæ :—		
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 2 gr. Ext. Belladonnæ, 1-10 gr.	1 thrice daily	
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 1 gr. Ext. Cannabis Ind., ½ gr.	1 thrice daily	
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 1 gr. Ext. Cannabis Ind., ½ gr. Aloes Socotrinæ, 1-3 gr.	1 thrice daily	
Rhei Compositæ, 2½ gr., 3 gr., 4 gr. and 5 gr.	5 to 10 gr.	13
Pil. Rhei Comp., 2½ gr. Ext. Taraxaci, 2½ gr.	at dinner or bedtime	
Saponis Compositæ (P. Opii, 1 in 5)	3 to 5 gr.	13
Scammonii Compositæ	5 to 15 gr.	
Scillæ Compositæ	5 to 10 gr.	
Strophanthi	1 to 5	343
Strychninæ,--1-100 gr., 1-30 gr., 1-24 gr. and 1-20 gr.		343
Terebinthinæ Chiæ, 3 gr.	2 every 4 hours	350
,, ,, et Zinci	1 to 3	351
Zinci Phosphidi, 1-6 gr.	thrice daily	290
,, Valerianatis, 3 gr.	,,	367
Zinci Valerianatis, 1 gr. Pil. Asafœtidæ Co., 2 gr.	1 or 2	
Pine Cure		303
Pinol		304
Pinus Pumilio		304
Pinus Sylvestris		303
Piper Methysticum		371
Piperina	1 to 10 gr.	304
Pipmenthol		246
Piscidia		305
Pitcher Plant		372
Pitayo Bark		123
Pituri		169
Pix Liquida	2 to 10 gr.	305
Plaster Mulls		376
Acid Pyrogallic	42 per cent.	42
,, Salicylic	38 and 50 ,,	45
,, Salicylic 20, 24, and 29 ,, ,, Creasote 40, 48, and 49 ,,		45
Acid Salicylic 60 ,, Ext. Cannabis Ind. 15 ,,		45
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Hydrargyri Acid. Carbolic.	58 ,, 20 ,,	206
Hydrargyri Zinci. Oxidi.	35 ,, 35 ,,	206
Hydrarg. Ammoniat.	50 ,,	206
Iodoform	50 ,,	224
Resorcin	50 ,,	325
Plaster of Lithium-Ichthyol		219
Pleurisy Root		369
Plumbi Acetas	1 to 4 gr.	
,, *Emplastrum*		268
,, Oleatum		268
,, Oleatis Unguentum		268
,, Stearas		268
,, Subacetatis Glycerinum		198
Po' de Bahia		118
Podophylli Rhizoma		307
,, *Resina*	1-30 to 1 gr.	307
Podophyllic Acid		308
Podophyllin	1-30 to 1 gr.	307
Podophyllotoxin		308
Po-ho-yo		247
Points of Zinc Sulphate		367
Poison Oak		328
Polyporus Officinalis		62
Pomegranate, Bark of Root		281
Pond's Extract		205
Posology		17
Potassa cum Calce		310
Potassa Sulphurata	2 to 8 gr.	
Potassii Acetas	10 to 60 gr.	
,, *Bicarbonas*	10 to 60 gr.	
,, *Bromidum*	5 to 30 gr.	
,, *Carbonas*	10 to 30 gr.	
,, *Chloras*	10 to 30 gr.	
,, *Citras*	20 to 60 gr.	
,, Citras Effervescens	1 dr.	
,, *Cyanidum*		310
,, Hypophosphis	1 to 6 gr.	293
,, *Iodidum*	2 to 20 gr.	
,, *Nitras*	5 to 30 gr.	310
,, Osmias		39
,, *Permanganas*	1 to 5 gr.	311
,, Phosphas	1 to 10 gr.	312
,, Silicas		339

Name.	Dose.	Page
Potassii Succinas	5 to 10 gr.	313
,, *Sulphas*	15 to 60 gr.	
,, *Tartras*	1 to 8 dr.	
,, *Tartras Acida*	20 to 60 or 240 gr.	
Potassium, Silicate of		339
Prayer Beads		19
Preface		2
Preservative Solutions		29, 30
Propylamine		360
Protective, Oiled Silk		28
Prunin	1 to 5 gr.	313
Prunus Virginiana		313
Pseud-aconitine		53
Ptychotis Ajowan		357
Puff Ball		371
Pulsatilla		314
,, Camphor	1-60 to 1-12 gr.	314
Pulvis Antimonialis	10 gr.	
,, Bismuthi Compositus		92
,, Bonducellæ Compositus	15 to 30 gr.	369
,, Boracis Compositus		108
,, *Catechu Compositus*	20 to 40 gr.	
,, Cinchoninæ Compositus	3 to 12 gr.	127
,, *Cinnamomi Compositus*	3 to 10 gr.	
,, Creasoti et Amyli		162
,, *Cretæ Aromaticus*	10 to 60 gr.	13
,, *Cretæ Aromaticus cum Opio*	10 to 40 gr.	
,, *Elaterini Compositus*	½ to 5 gr.	170
,, *Glycyrrhizæ Compositus*	30 to 60 gr.	201
,, Hydrargyri cum Creta et Belladonnæ		89
,, *Ipecacuanhæ Compositus*	5 to 15 gr.	
,, *Julapæ Compositus*	20 to 60 gr.	
,, *Kino Compositus*	5 to 20 gr.	
,, Liquiritiæ Compositus	30 to 60 gr.	201
,, Lobeliæ Compositus		311
,, *Opii Compositus*	2 to 5 gr.	
,, Pancreaticus Alkalinus (Benger)	20 gr.	275
,, Pectoralis (Kurellæ)	30 to 60 gr.	201
,, *Rhei Compositus*	20 to 60 gr.	13
,, Salicylicus cum Talco, P.G., 1 in 33		45
,, *Scammonii Compositus*	10 to 20 gr.	
,, Seidlitz		340
,, *Tragacanthæ Compositus*	10 to 60 gr.	360
,, Zinci et Hydrargyri Chloridi		366
,, Zinci Oleatis		270
Pumiline		304

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Pŭnica Granatum		281
Pussy Willow		372
Pyridine		315
Pyrocatechin		215
Pyrogallic Acid	½ to 1½ gr.	42
Pyrogallol	½ to 1½ gr.	43
Pyroxylin		155
Quebracho Bark		315
Quillaia		127, 372
Quineti Sulphas	1 to 5 gr. or more	316
Quinetum	1 to 5 gr. or more	316
Quinidina		317
Quinidinæ Sulphas	1 to 20 gr.	317
Quinina	1 to 4 gr.	317
Quininæ Arsenias	1-8 to ½ gr.	318
„ Chloras	1 to 5 gr.	318
„ Citras	1 to 5 gr.	318
„ Fluoridum	1 to 2 gr.	36
„ Hydrobromas	1 to 5 gr.	319
„ „ Acida	½ to 2 gr. (hypod.)	319
„ *Hydrochloras*	1 to 10 gr.	319
„ „ Acida	½ to 2 gr. (hypod.)	320
„ Iodas	1 to 5 gr.	320
„ Iodidum	1 to 5 gr.	320
„ „ Acidum	1 to 4 gr	320
„ Lactas	1 to 5 gr.	320
„ Oleatum, 1 in 4		265
„ Phosphas	1 to 6 gr.	320
„ Salicylas	2 to 6 gr.	320
„ *Sulphas*	1 to 5 gr.	321
„ „ Acida	1 to 5 gr.	323
„ Sulphocarbolas	1 to 6 gr.	323
„ Tannas	1 to 4 gr.	324
„ Valerianas	1 to 4 gr.	324
Quinine Acid Sulphate	1 to 5 gr.	323
„ Disulphate	1 to 5 gr.	321
„ *Sulphate*	1 to 5 gr.	321
Quinoidina	1 to 5 gr. or more	324
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Red Gum	2 to 6 gr.	181
Remijia Purdieana		123
„ Pedunculata		123
Resina Podophylli	1-30 to 1-15 gr. frequently ¼ to 1 gr. single dose	307
Resorcin	5 to 15 or 30 gr.	324

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Rhamni Frangulæ Cortex		326
,, *Purshiani Cortex*		326
Rhei Radix	2 to 20 gr.	
Rhein	1·5 to 2 gr. or more	119
Rhigolene		155
Rhus Toxicodendron		328
,, Aromatica		328
,, Glabra		328
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Roseine	½ to 4 gr.	128
Rubini's Solution of Camphor	2 to 5 m.	103
Rumicin	1 to 4 gr.	328
Sabadilla		362
Sabinæ Cacumina	4 to 10 gr.	
Saccharated Wheat Phosphates		294
Saccharin	½ to 2 gr.	329
,, Soluble	½ to 2 gr.	330
Sal Alembroth		210
,, Gauze		210
Sal Carolinum Factitium	20 to 60 gr.	340
Salicifrice		45
Salicinum	3 to 30 gr.	47
Salicylate of Bismuth	5 to 20 gr.	92
,, Mercury		210
,, Camphor	1 to 5 gr.	105
,, Iron	2 to 10 gr. or more.	46
,, *Sodium*	10 to 30 gr.	46
Salicylated Camphor Wool, 8 per cent.		105
,, Collodion		156
Salicylic Acid	5 to 30 gr. or more	43
,, ,, Ointment, 1 in 30		46
,, ,, Cream, 1 in 6½		45
,, Plaster Mulls		45
,, Silk		45
,, Suet		45
,, Wool, 4 and 10 per cent.		45
Salix Nigra		372
Salol	10 to 30 gr.	47
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Salve Mulls :—		
Acidi Borici, 2 sides	10 per cent.	24
,, ,, 1 ,,	29 ,,	24
Emplast. Plumbi Acid. Carbolic.	10 ,,	29
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,, ,, 1 ,,	20 ,,	366

NAME.	DOSE.	PAGE.
Salve Mulls :—		
Zinci Oxidi	20 per cent.	366
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Zinci Oxidi	20 ,,	366
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Salvo Petrolia		278
Sandal Wood Oil	10 to 30m.	271
Sanguinaria		331
Sanguinarin	¼ to gr.	331
Sanguis Bovinus Exsiccatus		184
Sanitary Wood Wool Wadding		304
Sanitas		213, 303
Santonate of Atropine		81
Santonica	10 to 0 gr.	331
Santoninum	2 to 6 gr.	331
Sapo Kalinus		333
,, Thymol		357
,, Viridis		333
Saponin		372
Sarracenia Purpurea		372
Sassy Bark		176
Scammoniæ Resina	o 8 gr.	
Scammonium	o 10 gr.	
Schœnocaulon Officinale		382
Scilla	o 3 gr.	333
Scillain		333
Scillipicrin		333
Scillitoxin		333
Sclerotic Acid	to ¾ gr.	175
Sclerotinic Acid	to ¾ gr.	175
Scopolia Japonica		372
Scopoline	1	372
Scotch Pine, or Fir	1	303
Scutellarin	1 to 5 gr.	334
Secale Cornutum	10 to 30 gr.	178
Secalin		360
Seidlitz Powders	10	340
Selenite		238
Senna	10 to 30 gr.	34
Sethia Acuminata		372
Seigesbeckia Orientalis		372
Silicate of Potassium Solution		339
,, of Sodium Solution		338
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,, *Nitrate, Mitigated*		76

NAME.	DOSE.	PAGE
Silver, Oxide of	½ to 2 gr.	
Simulo		372
Smelling Salts, Carbolized		29
Smilax Sarsaparilla		341
Snakeroot, Black		121
Snuff of Capsicum and Borax		108
Soap, Green		333
Soap Bark		372
Soap of Thymol		357
Socaloin	1 to 4 gr.	64
Soda Mint Tablets		348
„ *Tartarata*	2 to 4 dr.	
Sodii Arsenias	1-16 to 1-8 gr.	78
„ Benzoas	10 to 30 gr.	20
„ *Bicarbonas*	10 to 60 gr.	
„ *Bromidum*	10 to 30 gr.	334
„ *Carbonas*	5 to 30 gr.	
„ „ *Exsiccata*	3 to 10 gr.	
„ Chloras	10 to 30 gr.	335
„ *Chloridum*	10 to 240 gr.	
„ Citras	10 to 6 gr.	336
„ *Citro-Tartras Effervescens*	1 to 4 dr.	
„ Ethylas		336
„ Fluo-silicas		336
„ Glyco-cholas		341
„ Hippuras	5 to 30 gr.	21
„ Hypobromitis Solutio		337
„ *Hypophosphis*	5 to 10 gr.	293
„ Hyposulphis	10 to 60 gr.	52
„ *Iodidum*	3 to 10 gr.	337
„ *Nitras*	5 to 30 gr.	
„ Nitris	2 to 5 gr. increased	337
„ Permanganas		312
„ *Phosphas*	20 gr. to 1 oz.	338
„ „ Effervescens	1 to 3 dr.	338
„ „ Exsiccata	10 gr. to 4 dr.	338
„ *Salicylas*	10 to 30 gr.	46
„ Santonas	5 to 10 gr.	332
„ Silicas		338
„ *Sulphas*	2 to 8 dr.	339
„ „ Effervescens	60 gr. or more.	339
„ „ Exsiccata	½ to 4 dr.	339
„ Sulphindigotas		352
„ Sulpho-Ichthyolas		219
„ Sulphovinas	¼ to 1 oz.	340
„ Tauro-cholas	2 to 6 gr.	340

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,, *Sulphis*	5 to 20 gr.	52
,, *Sulphocarbolas*	10 to 15 gr.	32
,, *Valerianas*	1 to 5 gr.	
Sodio-Magnesii Sulphas Effervescens	60 gr. or more	340
Sodium		13, 334
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,, Terebinthinæ Chiæ		351
,, Zinci Chloridi Antiseptica		365
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,, of Potassio-Mercuric Iodide		353
Sonstadt's Solution for Testing Gems		356
Sparteinæ Sulphas	½ to 4 gr.	372
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Spiritus Ætheris	30 to 90 m.	58
,, ,, *Compositus*	30 to 90 m.	59
,, ,, *Nitrosi*	½ to 2 dr.	59
,, *Ammoniæ Aromaticus*	½ to 2 dr.	13,68
,, ,, *Fœtidus*	½ to 2 dr.	68
,, *Armoraciæ Compositus*	1 to 2 dr.	
,, *Cajuputi*	½ to 1 dr.	
,, *Camphoræ*	10 to 30 m.	
,, Camphoræ Fortior	2 to 5 m.	103
,, *Chloroformi (Chloric Ether)*	5 to 60 m.	117
,, *Cinnamomi*	30 to 60 m.	13
,, *Juniperi*	30 to 60 m.	
,, *Lavandulæ*	30 to 60 m.	
,, *Menthæ Piperitæ*	30 to 60 m.	
,, *Myristicæ*	30 to 60 m.	
,, Nucis Juglandis	1 to 4 dr.	237
,, Thymol	3 to 15 m.	357
Staining Preparations		378
Staphisagriæ Oleum		167
,, *Semina*		167
,, *Unguentum*		167
Starch and Iodine Paste		229
,, Iodized	½ to 4 dr.	229
Stavesacre Ointment		167
Stigmata Maidis		371
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Stillingin	1 to 3 gr.	341
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Strophanthi Pilula	2 m. of Tr. in each.	343
,, Tabellæ	1 to 5	343
,, Tinctura	2 to 10 m.	342

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Strophanthus Hispidus		342
,, Kombé		342
Strychnine	1-30 to 1-12 gr.	343
Strychninæ Acetas	1-24 to 1-10 gr.	344
,, Arsenias	1-60 to 1-15 gr.	344
,, Hydrobromas	1-30 to 1-12 gr.	344
,, Nitras	1-24 to 1-10 gr.	345
,, Sulphas	1-24 to 1-10 gr.	345
,, ,, Acida	1-20 to 1-10 gr.	345
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Styptic Colloid		157
,, Lint		187
,, Wool		187
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,, Pastils		209, 377
,, Wood Wool, ½ per cent.		208, 301
Succus Alterans		341
,, Ari	1 dr.	369
,, *Belladonnæ*	2 to 15 m.	89
,, *Conii*	½ to 1 dr.	
,, Digitalis	3 to 10 m.	
,, Galii	1 to 2 dr.	370
,, *Hyoscyami*	½ to 1 dr.	
,, *Scoparii*	1 to 2 dr.	
,, *Taraxaci*	1 to 2 dr.	
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ılphite of Sodium	5 to 20 gr.	52
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ılphonal	15 to 30 gr.	113
lphur Præcipitatum	20 to 60 gr.	346
,, *Sublimatum*	20 to 60 gr.	346
lphuretted Hydrogen		347
lphurous Acid	30 to 120 m.	51
,, Anhydride		51
ppositories with Cacao Butter, 15 gr. in each		
,, with Gelatine Basis, 20 gr. in each		
ppositoria Acidi Borici, 3 gr.		22
,, ,, Carbolici, 1 gr.		29
,, ,, ,, *cum Sapone*, 1 gr.		29
,, ,, *Tannici*, 3 gr.		

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Suppositoria Acidi Tannici cum Sapone, 3 gr.		
,, Atropinæ, 1-20 gr.		
,, Belladonnæ Ext., ½ gr.		89
,, Bismuthi Oxychloridi, 10 gr.		91
,, Chloral, 5 gr.		112
,, Cocainæ, ½ gr.		140
,, Gallæ, 5 gr.		
,, Gallæ, 5 gr. Opii, 1 gr.		
,, Glycerini		197
,, Hamamelin, 1 gr.		205
,, *Hydrargyri Unguenti*, 5 gr.		
,, *Iodoformi*, 1 gr., 3 gr., and 5 gr.		224
,, *Morphinæ*, ½ gr., also ¼ gr., and 1 gr.		254
,, *Morphinæ cum Sapone*, ½ gr.		254
,, Opii, 1 gr.		
,, *Plumbi Acetatis*, 3 gr. *Opii*, 1 gr.		
,, Santonini	3 gr., 5 gr., and 6 gr.	332
,, Zinci Oleatis	5 gr.	
,, ,, Oxidi	5 gr.	
Surgical Dressings		375
Sweet Vernal Grass		72
Sylphium		356
Syrupus	1 or 2 dr.	
,, Acidi Hydriodici, 1 per cent.	20 to 40 m.	230
,, Apomorphinæ Hydrochloratis	½ to 1 dr.	74
,, *Aurantii*	1 dr.	
,, *Aurantii Floris*	1 dr.	
,, Butyl Chloral	1 dr.	94
,, Calcii et Ferri Lactophosphatis	1 or 2 dr.	38
,, Calcii Lactophosphatis	1 or 2 dr.	38
,, ,, Hypophosphitis	1 or 2 dr.	293
,, ,, Manganesii et Potassii Hypophosphitum		291
,, Cascara Sagrada	1 to 4 dr.	327
,, *Chloral*	½ to 2 dr.	112
,, Codeinæ	1 dr.	154
,, Eucalypti Gummi	30 to 60 m.	182
,, Ferri Bromidi	1 dr.	185
,, Ferri Bromidi cum Quinina	1 dr.	185
,, Ferri Bromidi cum Quinina et Strychnina	1 dr.	185
,, Ferri Bromidi cum Strychnina	1 dr.	185
,, Ferri Dialysati	1 dr.	189
,, Ferri et Manganesii Phosphas	1 dr.	191, 244
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,, *Ferri Phosphatis*	... 1 dr.	191
,, Ferri Phosphatis Compositus	... 1 dr.	191
,, Ferri, Quininæ et Strychninæ Phosph.	1 dr.	192
,, *Hemidesmi*	... 1 dr.	
,, Hypophos. Co.	... 1 dr.	293
,, *Limonis*	... 1 dr.	
,, *Mori*	... 1 dr.	
,, *Papaveris*	... 1 dr.	
,, Picis Liquidæ . .	. 1 to 4 dr.	306
,, Pruni Virginianæ	... 1 to 2 dr.	313
,, *Rhœados*	. . 1 dr.	
,, *Rhei*	... 1 to 4 dr.	
,, *Rosæ Gallicæ*	... 1 dr.	
,, *Scillæ*	30 to 60 m.	
,, *Sennæ*	... 1 to 4 dr.	
,, Sulphatum	. . ...	101
,, *Tolutanus*	... 1 dr.	
,, *Zingiberis*	... 1 dr.	
Tabellæ Antipyrin .	. 5 gr.	131
,, Apomorphinæ	1-50 gr.	74
,, Cocainæ	... 1-20 gr.	140
,, *Nitroglycerini*	... 1 or 2	261
,, ,, Compositæ ...	...	262
,, Pepsinæ	... ...	284
,, Saccharini ...	. . .	330
,, Strophanthi	. 2 m. of Tr.	343
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Tannate of Cannabin	2 to 10 gr. increased	106
Tar	... 2 to 10 gr.	305
Tayuya	... ...	373
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erchloride of Formyl	... 1 to 10 m.	113
erebena Pura	... 5 to 30 m.	348
erebinthina Chia	... 5 to 10 gr.	349
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,, Sulphate		13
Thapsia Garganica		35
Theine	½ to 5 gr.	95
Theobromine	1 to 5 gr.	35
Therapeutic Index		41
Thio-sulphate of Sodium		5
Thuja		35
Thymol	½ to 2 gr.	35
,, Gauze		35
,, Soap		35
,, Solution (Volckmann's)		35
Tinctura Aconiti	5 to 15 m., or 1 m. often	5
,, Aconiti Ferocis	1 minim hourly	36
,, Aconiti Heterophylli	10 to 60 m.	36
,, Aconiti (Fleming)	1 to 5 m.	5
,, Aconiti (Turnbull)	1 to 5 m.	5
,, Acteæ	15 to 60 m.	12
,, Agarici	20 to 60 m.	6
,, *Aloes*	1 to 2 dr.	
,, Alstoniæ Constrictæ	½ to 2 dr.	3
,, ,, Scholaris	1 to 2 dr.	36
,, Anacardii	2 to 10 m.	7
,, Anthemidis	3 to 10 m.	7
,, Anthoxanthi	2 to 6 m.	7
,, Apis Mellificæ	1 m. hourly	
,, Apocyni Cannabini	5 to 60 m.	7
,, *Arnicæ*	½ to 1 dr.	
,, *Asafætidæ*	½ to 1 dr.	
,, Asclepiadis Cornuti	5 to 40 m.	3
,, ,, Incarnatæ	5 to 40 m.	3
,, ,, Tuberosæ	5 to 40 m.	3
,, *Aurantii*	1 to 2 dr.	
,, ,, *Recentis*	1 to 2 dr.	
,, *Belladonnæ*	5 to 20 m.	
,, *Benzoini Composita*	30 to 60 m.	
,, Benzoini Simplex, B.P.C.	1 in 10 S.V.R.	
,, Boldoæ	10 to 20 m.	3
,, Bryoniæ	1 to 10 m.	
,, *Buchu*	1 to 2 dr.	
,, Calendulæ		
,, *Calumbæ*	½ to 2 dr.	
,, *Camphoræ Composita*	15 to 60 m.	
,, *Cannabis Indicæ*	5 to 20 m.	1
,, *Cantharidis*	5 to 20 m.	1

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Tinctura Capsici	3 to 20 m.	109
,, Capsici Concentrata, 1 in 3		109
,, *Cardamomi Composita*	½ to 2 dr.	
,, Carminativa	2 to 10 m.	196
,, *Cascarillæ*	½ to 1 dr.	
,, *Catechu*	½ to 2 dr.	
,, *Chiratæ*	½ to 2 dr.	
,, *Chloroformi Composita*	5 to 60 m.	118
,, *Chloroformi et Morphinæ*	5 to 10 m.	118
,, *Cimicifugæ*	15 to 60 m.	122
,, *Cinchonæ Composita*	½ to 2 dr.	125
,, *Cinchonæ* (*Rubræ*)	½ to 2 dr.	125
,, *Cinnamomi*	½ to 2 dr.	14
,, *Cocci*	as colouring	
,, Colchici Floris Recentis	10 to 30 m.	
,, *Colchici Seminum*	10 to 30 m.	
,, Colocynthidis, P.G.	3 to 15 m.	
,, *Conii*	20 to 60 m.	
,, Convallariæ	5 to 30 m.	159
,, Coto	10 to 20 m.	160
,, *Croci*	as colouring	
,, *Cubebæ*	½ to 2 dr.	
,, *Digitalis*	10 to 30 m.	
,, Droseræ Rotundifoliæ	5 to 15 m.	370
,, Elaterii Composita	10 to 30 m.	170
,, *Ergotæ*	15 to 60 m.	173
,, Ergotæ Ammoniatæ	10 to 60 m.	175
,, Erythrophlœi	5 to 10 m.	176
,, Eucalypti Foliorum	15 to 120 m.	180
,, Eucalypti Gummi	20 to 40 m.	182
,, Euonymi	10 to 40 m.	183
,, Euphorbiæ Piluliferæ	10 to 30 m.	183
,, *Ferri Acetatis*	5 to 30 m.	14
,, ,, Muriatis	10 to 30 m.	187
,, ,, *Perchloridi*	10 to 30 m.	186
,, ,, Pomata	15 to 30 m.	190
,, *Gallæ*	½ to 2 dr.	
,, *Gelsemii*	5 to 20 m.	195
,, *Gentianæ Composita*	½ to 2 dr.	
,, Gossypii Radicis	1 dr.	203
,, *Guaiaci Ammoniata*	30 to 60 m.	
,, Guaranæ	30 to 60 m.	204
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,, *Hyoscyami*	30 to 60 m.	
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,, Iodi Decolorata		229
,, ,, ,, Fortior		229
,, Iodi Oleosa		229
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,, *Jaborandi*, 1 in 4	30 to 60 m.	232
,, *Jalapæ*	30 to 120 m.	
,, *Kino*	30 to 120 m.	14
,, Koromiko	½ to 1 dr.	371
,, *Krameriæ*	30 to 120 m.	
,, Lachnanthis	1 to 10 m.	371
,, *Laricis*	20 to 30 m.	
,, *Lavandulæ Composita*	30 to 120 m.	
,, *Limonis*	30 to 120 m.	
,, *Lobeliæ*	10 to 30 m.	
,, *Lobeliæ Ætherea*	10 to 30 m.	
,, *Lupuli*	30 to 60 m.	242
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,, *Opii*	10 to 30 m.	
,, *Opii Ammoniata*	30 to 60 m.	
,, *Phenol-phthalein*, as a Test		16, 355
,, Phosphori Composita	3 to 12 m.	289
,, Phytolaccæ	3 to 10 m.	297
,, *Podophylli*	15 to 60 m.	309
,, Podophyllin (Dobell)	1 dr.	309
,, Podophyllin Ammoniata	2 to 20 m.	309
,, Pruni Virginianæ	20 to 60 m.	313
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,, *Pyrethri*		
,, *Quassiæ*	30 to 120 m.	
,, Quebracho	30 to 60 m.	316
,, Quillaiæ	20 to 60 m.	372
,, *Quininæ*	30 to 120 m.	322
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,, *Rhei*	30 to 120 m.	
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,, *Scillæ*	10 to 30 m.	
,, *Senegæ*	30 to 120 m.	
,, *Sennæ*	1 to 4 dr.	
,, *Serpentariæ*	30 to 120 m.	
,, *Stramonii*	10 to 30 m.	

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,, *Sumbul*	10 to 30 m.	14
,, Tayuyæ	6 to 15 m. increased	373
,, Thujæ	2 to 5 m.	356
,, *Tolutana*	20 to 40 m.	
,, *Valerianæ*	30 to 120 m.	
,, ,, *Ammoniata*	½ to 1 dr.	
,, *Veratri Viridis*	5 to 20 m.	362
,, Verbasci	20 to 60 m.	364
,, Warburg's	1 to 4 dr.	323
,, *Zingiberis*	15 to 60 m.	
,, *Zingiberis Fortior*	5 to 20 m.	
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Traumaticin		121
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Trimethylamina	20 to 60 m. of solution	360
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Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar:—		
Acidi Benzoici, S. and F., ½ gr. (Stimulant Voice Lozenge), T.H.	1 every 4 hours	20
Acidi Carbolici, S., 1 gr., T.H.	4 or 5 daily	29
,, Citrici (Acid Lemon Drops)	*ad libitum*	
,, *Tannici*, S., ½ gr.	1 frequently	
,, Tannici, F. 1½ gr., T.H.	1 every 3 or 4 hours	
,, Tannici et Capsici, F.	1 frequently	
Aconiti, F., Tinct. ½ m., T.H.	1 every ½ hour	
Althææ (Pastilles de Guimauve), T.H.	*ad libitum*	
Aluminis, S., 1 gr.	1 or 2 after meals	
Ammonii Bromidi, F., 2 gr.	1 every 3 hours	66
,, Chloridi, F. 2 gr., T.H.	1 every 3 hours	66
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,, et Potassii Chloratis, F.	,, ,,	
Camphoræ, S.	1 frequently	103
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Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar:—		
Carnis (Meat Lozenges)	*ad libitum*	184
Catechu, F., 2 gr., T.H.	1 every 3 hours	
Catechu, S., 1 gr.	,,	
Cocainæ Hydrochloratis, S., 1-12 gr.		142
Codeinæ, 1-8 gr., S.	4 or 5 daily	154
Cubebæ, F., 3 gr., T.H.	1 every 3 or 4 hours	
Eucalypti Gummi, F., 1 gr.	1 after meals	182
,, Compositi, F., 1 gr.	4 or 5 daily	182
Ferri Redacti, S., 1 gr.	1 or 2 after meals	
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Glycerini (Jujubes or Pastils)	*ad libitum*	
Glycyrrhizæ (Pontefract Cakes or Pipes)		201
Guaiaci, F., 2 gr., T.H.	3 to 6 daily	
Guaiaci, S., 2 gr.		
Hydrargyri Subchloridi, S., 1 gr. and 2 gr.		
Ipecacuanhæ, S., ¼ gr.	4 or 5 daily	
Ipecacuanhæ, S., 1 gr.	2 or 3 daily	
Kino, F., 2 gr., T.H.	1 every 3 or 4 hours	
Krameriæ, F., Ext. 3 gr., T.H.	1 ,, ,, ,,	
Lactucæ, F., Ext., 1 gr., T.H.	1 ,, 1 or 2 ,,	
Lavandulæ, S.	*ad libitum*	
Menthæ Piperitæ	,, ,,	
,, ,, Fortior	,, ,,	
Morphinæ, S., 1-36 gr.	4 or 5 daily	254
Morphinæ, F., 1-36 gr.	,, ,, ,,	254
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Morphinæ 1-40 gr., & Emetin, 1-80 gr., S.	,, ,, ,,	173
Moschi, S.	*ad libitum*	
Nitroglycerini, 1-200 gr., 1-100 gr., 1-75 gr. 1-50 gr., 1-25 gr.		261
Opii S., Ext. 1-10 gr. (and Liquorice),	2 to 6 daily	
Papain, ½ gr.		276
,, cum Cocaina		276
Paregoric, S.	3 to 6 daily	
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,, Chloratis, S. (Codex), 3 gr.	3 ,, 6 ,,	
,, Chloratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Citratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Nitratis, S., 3 gr.	3 ,, 6 ,,	
,, Tartratis Acidæ, F., 3 gr., T.H.	3 ,, 6 ,,	
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,, et Zingiberis, S.	1 or 2 ,, ,,	
,, Chloratis, F. and S., 3 gr., 3 to 6 daily		335
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,, French Oil	30 m. every ½ hour	285
Ulexine	1-20 to 1-5 gr.	373
Unguentum Acidi Borici, Nos. 1, 2 and 3, 1 in 6		22
,, ,, Borici (Lister), 1 in 6		23
,, ,, *Borici*, 1 in 7		23
,, ,, *Carbolici*, 1 in 20		29
,, ,, Chrysophanici, 20 gr. in 1 oz.		120
,, ,, Pyrogallici, 60 gr. to 1 oz.		42
,, ,, *Salicylici*, 1 to 28		45
,, *Aconitinæ*, 1 in 60		54
,, *Antimonii Tartratis*, 1 in 5		
,, *Atropinæ*, 8 gr. in 1 oz.		83
,, ,, cum Acido Borico		83
,, ,, cum Cocaina		83
,, *Belladonnæ*, 80 gr. in 1 oz.		89
,, Bismuthi Oxychloridi, 30 gr. in 1 oz.		91
,, Cadmii Iodidi, 1 in 8		
,, *Calaminæ*		239
,, *Cantharidis*, 1 in 8		107
,, *Cetacei*		15
,, *Chrysarobini*, 1 in 10		120
,, Cocainæ, 1 in 30		140
,, *Creasoti*, 60 m. in 1 oz.		163

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,, Cucumeris		164
,, Cupri Oleatis		266
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,, *Elemi*, 1 in 5		
,, *Eucalypti*, 1 (oil) in 5		180
,, *Gallæ*, 1 in 6½		
,, ,, *cum Opio* 1 (opium) in 15		
,, *Glycerini Plumbi Subacetatis*		199
,, Gynocardiæ, 1 in 4		271
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,, *Hydrargyri*, 1 in about 2		
,, ,, *Ammoniati*, 1 in 8		
,, ,, *Compositum*		
,, ,, *Iodidi Rubri*, 16 gr. in 1 oz.		
,, ,, *Nitratis*		
,, ,, ,, *Dilutum*		15
,, ,, Oxidi Flavi, 1 in 16		211
,, ,, ,, *Rubri*, 1 in 8		15
,, ,, *Subchloridi*, 80 gr. in 1 oz.		15
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,, *Iodi*, 16 gr. in 1 oz.		227
,, *Iodoformi*, 1 in 10		221
,, ,, cum Atropina		83
,, ,, et Eucalypti, 1 in 50		224
,, ,, Rosatum, 5 gr. in 1 oz.		224
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,, ,, *Carbonatis*, 1 in 8		
,, ,, *Iodidi*, 1 in 8		
,, ,, Oleatis		268
,, ,, *Subacetatis Compositum*		
,, *Potassæ Sulphuratæ*, 30 gr. in 1 oz.		15
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,, *Resinæ*		15
,, *Sabinæ*		15
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,, Thymol		358
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,, *Veratrinæ*, 8 gr. in 1 oz.		363
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,, Atropinæ		83
,, Cocainæ, 4 per cent.		140
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,, *Antimoniale*	5 to 60 m.	
,, Cocæ	4 to 16 drs.	136
,, *Colchici*	10 to 30 m.	
,, *Ferri*	1 to 4 dr.	
,, *Ferri Citratis*	1 to 4 dr.	
,, *Ipecacuanhæ*	5 to 40 m. expectorant 3 to 6 dr. emetic	15
,, *Opii*	10 to 40 m.	15
,, Pepsinæ	1 to 2 dr.	284
,, *Quininæ*	2 to 8 dr.	323
,, *Rhei*	1 to 2 dr.	
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Wine of Coca	½ to 2 oz.	136
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„ *Chloridum*	½ to 1 gr.	364
„ Citras	3 to 12 gr.	366
„ Cyanidum	1/16 to 1 gr.	366
„ Lactas	3 to 30 gr.	366
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„ *Oleatum*		269
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„ *Sulphas*	1 to 3 gr. tonic 10 to 30 gr. emetic	366
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THERAPEUTIC INDEX
OF
DISEASES AND SYMPTOMS.

N.B.—The Remedies are arranged in Alphabetical order; all those added in this edition are printed in italics at the end of each paragraph.

Abortion, Threatened.—Hydrastis, Hydrastin, Morphina, Opium, Sumbul, Viburnum prunifolium, *Codeina.*

Acne. — *Internal* — Calx Sulphurata, Hypophosphites, Potassii Bromid., Quininæ et Ferri Citras, Sodii Bromid., Sulphur.—— *Local* — Calaminæ Lotio, Belladonna, Hydrarg. Perchlorid. Lotio, Ichthyol, Sulphur. Iodid. Ung., Sulphur. Hypochloritis Ung., Thymol Ung., *Lanolin, Mollin.*

Ague.—Acid. Salicylic. and Salicin, Apiol, Arsenic, Chinolinum, Cinchonina, Cinchonidinæ Sulphas, Eucalyptus Globulus, Hydrastis, Quinetum, Quininæ Sulph. and Hydrobrom., Quinidinæ Sulph., Sodii Hyposulph., Warburg's Tincture, *Ammonii Picras, Berberina, Piperina.*

Albuminuria.—Acid. Gallic, Fuchsine, Jaborandi and Pilocarpine. Ozonic Ether, *Nitroglycerine and Nitrites of Amyl and Sodium.*

Alcoholism.—Arsenic, Capsicum, Cinchona rubra, Hydrastis, Lupulin, Morphina, Nux Vomica, Phosphorus, Picrotoxin, Quinine preps., Strychnine, *Hyoscinæ Hydrobromas.*

Alopecia.—*Internal*—Pilocarpine, Strychnine ——*Local*—Ammon. Liquor, Cantharides preps., Iodum, Nuc. Vomic. Tinct., Petroleum Spirit, Pilocarpine Nitrate Solution.

Amenorrhœa.—Actæa and Cimicifugin, Aloes, Apiol, Caulophyllin, Ergota, Gossypii Rad. Cortex, Iron Salts, Manganesii Oxidum, Phosphas and Sulphas, Menyanthes, Potass. Permang., Pulsatilla, Thuja, *Hydrastin, Santonin.*

Anæmia.—Arsenic, Calcii Phosph., Calcii Hypophosph, Ferri Bromid., Ferri Chloroxid. Liquor, Ferrum Dialysat., Ferri Hypophosph., Ferri Perchlorid., Ferri Phosph., Ferri Sulph., Pil. Ferri Carb. (Blaud), and Pil. Ferri Sulph., Phosphorus, Quinine preps., Sodii Hypophosphis, *Liquor Ferri Albuminati, Liquor Ferri Peptonati, Tinctura Ferri Pomata.*

Anæsthetics by inhalation.—A.C.E., Æther, Æthyl Bromid., Æthyl Iodid., Carbon, Tetrachlor., Chloramyl, Chloroform, Ethideni Dichlorid., Iso-Butyl Chlorid., Methylene, Nitrous Oxide Gas, *Hydramyl-ether.*

Anæsthetics, Local.—Æther, Cocaine Salts, Ice, Menthol, Methyl Chloride, Rhigolene, *Acid. Carbolic., Compound Anæsthetic Ether, Erythropleinæ Hydrochloras.*

Aneurism.—Aconite, Amyl Nitris (?), Digitalis, Ergotina, Nitroglycerine (?), Potassii Iodidum.

Angina Pectoris.—Æther, Æthyl Iodid., Amyl Nitris, Arsenic, Morphinæ inj. hypod., Nitroglycerini Liquor and Tabellæ, Sodii Nitris, *Methylal.*

Anthelmintics.—See **Parasites, Intestinal.**

Aphthæ.—*Internal*—Acid. Nit. Dil., Potass. Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Sulphuros., Alumen, Bismuth, Borax, and Glyc. of, Potass. Chloras, Potass. Permang., Sodii Chloras., Sodii Chlorinat. Liquor, *Iodoform*, *Iodol.*

Asthma.—*Internal*—Æthyl Iodid., Amyl Nitris, Antimony, Arsenic, Belladonna, Caffeine, Cannabis, Cannabin Tannas, Chloral Hydras, Chloroform, Colchicum, Delphina, Euphorbia pilulifera, Grindelia, Jaborandi, Lobeliæ Tinct. and Tinct. Ætherea, Nitroglycerine, Pilocarpine, Quebracho, Stramonium.——*Local* — Acid. Sulphuros. Vapor, Arsenical Cigarettes, Chloroform Vapor, Coca or Eucalyptus leaves smoked, Potass. Nit. fumus, Pyridine, Stramonium fumes, Tobacco fumes, Bliss', Green Mountain, and Himrod's Cures by fumes, *Pulvis Lobeliæ Co.——Internal—Anemonin, Coca* and *Cocainæ Salicylas, Codeine, Hyoscine, Sodii Nitris.*

Bed Sores. — *Local* — Acid. Tannic. Glycerin., Alcohol, Argent. Nit. in Nitrous Ether solution, Brandy, Glycerine, Iodoform. Gossyp. and Ung., Peruv. Bals., Tannin Iodoform and Starch Powder, *Resorcin.*

Bile, Deficiency of. — Hydrarg. cum Cretâ, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Taraxacum.

Biliousness.—Euonymin, Hydrastis and Hydrastin, Iridin, Juglandin, Leptandrin, Podophyllin, Sanguinarin, Seidlitz Powders, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Stillingia.

Bites and Stings.—*Local*—Alcohol, Ammon. Liquor, Arnicæ Tinct., Chloroform, Cocainæ Hydroch. Liquor, Onion Juice, Potass. Permang. (for Serpent's venom), Sodii Bicarb., Thymol and Starch powder, Thymol Ung.

Bladder, Catarrh of.—See **Catarrh, Vesical.**

Boils and Carbuncles.— *Internal*— Alkalies, Arsenic, Calx Sulphurata, Ferri Perchlorid., Hypophosphites, Sulphides, Sulphurous Waters, Syr. Sulphatum, Yeast.——*Local*— Argent. Nit., Belladonnæ Glycerin. (as pigment and on poultices), Collodium, Fermenti Cataplasma, Opii Ext., *Carbolated Camphor.*

Brain, Softening of. — Hypophosphites, Iron Salts, Morrhuæ Ol., Phosphorus.

Breast, Inflammation of.—*Local* — Belladonnæ Ext. Glycerin. and Linim., *Phytolacca.*

Breath, Fetid.—*Local*—Acid. Salicylic., Calcii Permang., Camphora, Creasoti Vapor, Myrrh with Borax Tincture, Sanitas (Toilet).

Bright's Disease.—Alkalies, Cannabis, Digitalis, Elaterium, Hydrastis, Jaborandi and Pilocarpine, Nitroglycerine, Potass. Iodid., Scoparii Succus.

Bronchitis, Acute. —Aconite, Ammon. Acet. Liquor, Antimony, Ipecacuanha, Pulsatilla.

Bronchitis, Chronic.—*Internal*—Ammon. Carb., Ammon. Chlorid., Apomorph. Hydrochl., Arsenic, Benzoates and Benzoin. Tinct., Eucalyptus Globulus, Grindelia, Morphine reps., Morrhuæ Ol., Piscidia, Prunus Virginiana, Pulsatilla, cilla, Senega, Tar, Tolu. Bals.——*Local*—Acid. Carbolic. Vapor, Acid. Sulphuros. Vapor, Creasoti Vapor, Croton Ol. um Collod., Croton Linim., Iodi Linim., Iodi Vapor., *Aneonin, Creolin, Quillaia, Syrupus Picis Liquidæ, Terebena ra, Terpin hydrate, Terpinol, Yerba santa.*

Bruises.—*Local*—Arnicæ Tinct. (well diluted), Calendula, Hamamelis, Haseline, *Hydrastis Tinctura.*

Burns and Scalds.—*Local*—Acid. Boric Ung., Calamin. Cerat., Chartazine, Cocainæ Ceratum, Iodoform., Lini. Ol. cum Aquâ Calcis, Thymol. Ung., Vaseline, Zinci Oleat. Ung., Zinci Ung., *Lanolin, Mollin.*

Bubo.—*Local*—Chlori Aqua, Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Ung., Hydrogen. Peroxid.

Calculi, Urinary.—Alkaline Carbonates, Ammon. Benz. and Phosph., Calcis Aqua, Lithium preps., Mineral Acids (for Phosphatic), Potass. Citras, Sodii Benz. and Hippuras.

Cancer.—*Internal*—Arsenic preps., Calx Sulphurata, Chloral Hydras and Opium preps. (as sedatives), Terebinth. Chia.——*Local*—Acid. Carbolic. (caustic), Acid. Carbolic. Glycerin., Acid. Chromic., Acid. Salicylic., cum Oleo, Bromum cum Acid. Oleic., Hydrarg. Nit. Acid. Liquor, Iodoform., London Paste, Morphine, Morphinæ Oleat., Quininæ Salicylas, Tannin and Opium, Vienna Paste, Zinci Chlorid. and Paste. ——*Internal—Mist. Tereb. Chiæ, and Mist. Tereb. Chiæ sine Sulphure, and Mist. Tereb. Chiæ cum Resorcin.*

Carbuncles.—See **Boils.**

Cardiac Tonics—Adonidin, Adonis Vernalis, Caffeina, Convallaria, Digitalis, Erythrophlœum, Scilla, Strychnina, Veratrum viride, *Sparteinæ Sulphas, Strophanthus.*

Caries.—Calcii Chlorid., Calcii Hypophosph., Calcii Phosph., Saccharated Wheat Phosphates.

Catarrh, Bronchial.—Aconite, Actæa, Aldehyd. Vapor, Ammon. Chlorid., Antim. Tart., Ferrier's Snuff, Prunus Virginiana, Pulsatilla, Sinapis Emplast., Spt. Æther. Nitros.

Catarrh, Gastro-intestinal.—Bismuth preps., Caffeine, Eucalyptus Globulus, Hydrastis, Hydrocyanic Acid, Salines, *Betol, Bismuthi Salicylas, Collinsonia Canadensis.*

Catarrh, Vesical and **Cystitis.**—Acid. Lactic, Alkalies, Benzoates, Buchu, Eucalyptus Globulus, Gokhru, Hydrastis, Juniper, Pareira, Triticum repens, *Arbutin, Betol, Collinsonia Canadensis, Saccharinum.*

Catarrh, Nasal.—Acid. Carbolic. Buginarium, Bismuth. Co. Pulv., Carbolised Smelling Salts, Iodoformi Buginarium and Ung. Rosatum, *Pilula Atropinæ Quininæ et Arsenici, Menthol injection, and Snuff of.*

Catarrh, Uterine.—*Local*—Acid. Carbolic. Glycerin., Boracis Glycerin., Camphorated Carbolic Acid, Iodoform. Gossyp. and Pessus, Plumbi Subacet. Glycerin., Opii et Amyli Enema, Zinci Sulph. Uterine Pencils, and with Alum.

Chancres, Soft.—*Local*—Hydrarg. Flav. Lotio, Hydrarg. Nig. Lotio, Hydrarg. Subchlor., Iodoform. and Ung., Plumbi Acet. Lotio, Resorcin.

Chapped Skin.—*Local*—Acid. Boric. Ung., Camphor Ball, Ceratum Petrolei, Collodium, Glycerin. cum Aquâ Rosæ, Vaseline, *Cucumeris Ung., Lanolin, Mollin.*

Chilblains.—*Local*—Acid. Boric. Ung., Acid. Carbolic. Ung., Aconit. Linim., Belladonnæ Linim. and Linim. Co., Cajeput Ol., Capsici Linim., Eucalypti Ol. Ung., Iodi Tinct. Decolor., Iod Ung., Iodoform Wool and Ung., Oleanodyne, Plumbi Subacet. Glycerin., Glycerini Plumbi. Subacet. Ung.

Chloasma.—See **Tinea Versicolor.**

Chlorosis.—Arsenic, Ferri Amara Mist., Ferri Aper. Mist., Ferri Co. Mist., Ferri Carb. Pil. (Blaud), Ferri Dialysat. Liq., Ferri Perchlorid. Tinct., Ferri Sulph. Pil., Hypophosphites, Myrrh et Aloes Pil., Phosphorus, *Mistura Ferri Arsenicalis, Manganesii Oxidum, Santonin, Tinctura Ferri Pomata.*

Cholera.—Camphora, Chloromorphiæ Liq., Copper Salts, Coto and Cotoin, Hydrarg. cum Creta., Hydrarg. Subchlorid. cum Opio, Morphina, Opium, Paracotoin, Plumbi Acet., Plumbi cum Opio Pil., *Resorcin.*

Chordee.—Aconite, Belladonna, Bromides, Camphora, Cannabis, Canthar. Tinct. (one minim hourly), Chloral Hydras, Morphinæ inj. hypod., Opii Suppos.

Chorea.—Actæa, Arsenic, Calcii Chlorid., Chloral Hydras, Cimicifugin, Conium and Coniæ Hydrobrom., Curara, Ergota, Ferri Bromid., Ferri Phosph., Morrhuæ Ol., Phosphorus, Physostigma and Physostigmine, Strychnine, Valerianates, Zinci Bromid. and Oxid., *Antipyrin, Inula Helenium, Scutellarin.*

Colic.—Æther, Belladonna, Calcis Aqua (for infants), Cajeput Ol., Camphora, Chloroform, Chloromorphiæ Liq., Menth. Pip. Ol., Morphine preps., Opium preps., *Tinctura Carminativa.*

Collapse and Fainting.—Æther inj. hypod., Æther. Spt., and Spt. Co., Alcohol, Ammon. Arom. Spt., Ammon. Vapor, Amyl Nitris., Digitalis Tinct. and Inj. Hypod. 20 m.

Conjunctivitis.—*Local*—Acid. Boric., Alumen, Belladonna, Boroglyceride, Hydrarg. cum Morphinâ Oleat., Hydrarg. Oxid. Flav. Ung., Hydroquinone, Opii Vinum, Resorcin, Zinc. Sulph. Lotio, *Iodol.*

Conjunctivitis, Diphtheritic. — *Local* — Quininæ Sulph. Lotio., Hydroquinone, Resorcin, *Iodol,*

Constipation.—Aloes and Aloin, Belladonna, Cascara, Coloc. Co. Pil., Coloc. Co. cum Hyoscy. Pil., Emblic Myrabolans, Glycyrrh. Co. Pulv., Hydrarg. Subchlorid., Iridin, Juglandin, Magnes. Sulph., NuxVomic., Podophyllin, Rhamnus Frangula, Rhei Co. Pil., Rhei Co. Pulv., Ricini Ol., Scammon. Co. Pil., Seidlitz Powders, Senna, Sennæ Confect., Sennæ Co. Mist., Sodii Phosph. Efferves., Sodii Sulphas Efferves., Sodio-Magnes. Sulph. Efferves., Sulphur, Sulphur. Confect., *Cascara capsules, Elixir Cascara Sagrada, Ext Casc. Sag. Liquid. insipidum, Sodii Sulpho-vinas, Syrupus Cascara Sagrada.*

Convulsions. — Amyl Nitris, Anæsthetics, Camphor. Monobrom., Chloral Suppos., Morphine preps., Podophyllin, Potassii Bromid., Sodii Bromid., Sodii Nitris.

Convulsions, Puerperal.—Anæsthetics, Chloral Hydras, Nitroglycerine, Pilocarpine, *Veratrum viride.*

Cornea, Inflammation, and Ulcers of.—*Local*—Atropine, Belladonna, Cocain. Hydroch. Liquor, Daturine, Duboisine, Eserine, Hydroquinone, Pilocarpine, Hydrarg. Oxid. Flav. Ung., Hydrarg. Subchlorid., *Infusum Auri.*

Corns.—See **Warts.**

Coryza.—See **Catarrh Nasal,** and **Hay Fever.**

Cough.—Acid. Hydrobromic., Belladonna, Benzol, Bryonia, Camphor. Co. Tinct., Chloral Hydras, Codeina, Conium, Gelsemium, Helenin, Hyoscyamus, Morphinæ Linctus, Morphinæ Troch., Morphinæ et Ipecac. Troch., Narceina, Opium preps., Picis Liq. Pil., Piscidia, Prunus Virginiana, Terpin Hydrate, *Creosote inhaled, Terebena pura, Terpinol.*

Croup, True.—*Internal*—Acid. Lactic., Aconite and Aconiti Pastillus, Alumen, Ammon. Carb., Antimony, Bromides, Calcii Sulphid., Ipecacuanha, Zinci Sulph.——*Local*—Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Acid. Tannic. Nebula, Calcis Aquæ Nebula, *Inula Helenium*.

Croup, False.—See **Laryngismus Stridulus.**

Debility.—Alcohol, Arsenic preps., Calcii Phosph., Calumba, Cinchona preps., Gentiana, Hypophosphites, Iron Salts, Maltum, Morrhuæ Ol., Phosphorus, Quassia, Quinine preps., Strychnine, *Elixir Ferri Quininæ et Strychninæ Phosphatum*, *Morrhuol*.

Delirium Tremens, and see **Alcoholism.**—Alcohol, Ammon. Carb., Bromides, Camphora Monobromata, Capsicum, Chloral, Digitalis, Hyoscyamine, Opium preps., Phosphorus, Quinine preps., Strychnine, Veratrum viride, *Antifebrin*, *Methylal*.

Diabetes.—Acid. Lactic., Codeina, Convallaria, Glycerine, Hydrogen Peroxide, Jaborandi, Opium, Oxygen, Ozonic Ether, Sodii Salicylas, Thymol, Sodii Arsenias, Uranii Nitras, *Antipyrin*, *Jambul*, *Saccharin*, *elixir and tabellæ of*.

Diarrhœa.—*Internal*—Acid. Carbolic., Acid. Gallic., Acid. Sulph. Dil. and Aromat., Agaricus albus and Agaricin, Anthemis, Bismuth preps., Calcis Aqua, Calcii Carb., Camphora, Catechu, Coto Tinct., Cotoin, Cretæ Arom. Pulv., and cum Opio, Cupri Sulph., Eucalyptus Gum., Ferri Pernit. Liq., Guarana, Hydrarg cum Cretâ, Ipecac. Co. Pulv., Kino, Leptandrin, Myricin, Opium preps., Plumbi Acet., Podophyllin, Ricini Ol.——*Local*—Acid. Tannic. Suppos., and cum Opio, Amyli Enema, and cum Opio, Gallæ Suppos. and cum Opio, Turpentine Stupes.——*Internal*—*Abies Canadensis*, *Berberina*, *Bismuthi Salicylas*, *Cannabis*, *Ferri Salicylas*, *Geranium maculatum*, *Naphthalin*, *Quininæ Salicylas*, *Resorcin*, *Sodii Phosphas*.

Diphtheria.—*Internal*—Acid. Salicylic., Calx Sulphurata, Ferri Perchlorid., Pilocarpine, Sodii Hyposulphis., Sodii Chloras.——*Local*—Acid. Benzoic. Nebula, Acid Carbolic. Glycerin. and Nebula, Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Argent Nit., Calcis. Aquæ Nebula, Chinoline, Chlori Aqua, Eucalypti Ol. and Vapor, Hydroquinone, Papayotin, Pepsin. Glycerin. Acid, Resorcin, Sodii Benzoatis Nebula, Sodii Chlorinat. Liquor. *Acid. Sulphurosum*, *Inula and oil pigment*, *Iodol, pigment of*, *Ozonic Ether*, *Sodii Benzoas*.

Dipsomania.—See **Alcoholism.**

Dropsy, Cardiac.—Asparagin, Caffeine, Convallaria majalis, Delphina, Digitalis, Digitalin, Elaterium, Erythrophlœum, Strophanthus, Veratrum Viride.

Dropsy, Hepatic.—Ammon. Benzoas, Ammon. Chlorid., Copaibæ Bals., Hydrarg. Pil., Hydrarg. Subchlorid., Sodii Bicarb., Taraxacum, *Sparteinæ Sulphas*, *Ulexine*.

Dropsy, Renal.—Apocynum Cannabinum, Buchu, Delphina, Elaterium, Hydrarg. Pil., Jalapa, Juniperus, Pilocarpine, Potass. Acet., Potass. Tart. Acida, Potassii Iodid., Potass. Nit., Scilla, Sodii Iodid., *Blatta orientalis*.

Dysentery.—Belæ Fructus, Eucalypti Gum., Guarana, Hæmatoxylum, Hamamelis, Hydrarg. Perchlorid., Ipecacuanha, Ipecac. Co. Pulv., Opium, Plumbi Acetas, Terebena pura, Terebinth. Ol., and Stupes of, *Cannabis*, *Naphthalin*.

Dysmenorrhœa.—Actæa, Æther Spt. cum Opii. Tinct., Amyl Nitris, Anemonin, Apiol, Butyl Chloral, Cannabis and Cannabin Tannas, Carbon. Tetrachlor. Vapor, Cimicifugin, Gossypii Rad. Cort., Potass. Bromid., Pulsatilla, Serpentaria, Valerian, *Salix nigra*, *Viburnum prunifolium*.

Dyspepsia.—Acid. Carbolic. Perle and Pil., Acid. Nit. Dil., Acid. Hydroch. Dil., Aloes and Aloin, Ammon. Carb., Argent. Nit. and Oxid., Arsenic, Belladonna, Bismuth. Carb. Oxychlorid. and Subnit., Capsicum, Cerii Oxalas, Creasote, Emblic Myrabolans, Gentiana, Gingerin, Hydrarg. cum Creta, Hydrastis, Hydrocyanic Acid, Leptandrin, Malti Ext., Menispermin, Nux Vomica, Pancreatin, Papayotin, Pepsin, Podophyllin, Quinine preps., Rhei Rad., Rumicin, Salicin, Sanguinarin, Sodii Bicarb., Sodii Sulphocarb., Stillingia. *Pepsin and Bismuth tablets*, *Sodii Taurocholas*.

Dyspnœa.—Æther Spt., Æthyl Iodid., Alcohol, Amyl Nitris, Lobelia, Ozonic Ether, Quebracho and Aspidospermine, *Nitroglycerine*, *Sodii Nitris*.

Earache.—*Local.*—Atropinæ Liquor or Oleatum (diluted), Chloroformi Vapor, Cocaina cum Oleo, Morphinæ Oleatum (diluted), Opii Tinct. cum Oleo, *Delphina in Spirit or in Ung*.

Eczema.—*Internal*—Arsenic preps. Iron Salts, Morrhuæ Ol., Phosphorus, Sulphides, Sulphur.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Chrysarobini Ung. (weak), Acid. Salicylic. Ung., Bismuth Nit. Glycerin., Calaminæ. Lotio, Calcis Aqua, Calcis Linim., Diachyli Ung., Huile de Cade, Kaolin Ung., Naphthol, Plumbi Stearas, Plumbi Subacet. Glycerin. and Ung., Tar, Thymol, Zinci Cremor, Zinci Oleat. Pulv. and Ung., Zinci Ung., *Ichthyol, and Collodium Ichthyol*, *Lanolin*, *Mollin*.

Epilepsy.—Ammon. Bromid., Amyl Nitris, Argent. Nit., Arsenic, Atropine, Belladonna, Borax, Bromal-Hydras, Brucia, Camphora Monobromata, Cannabis, Cupri Ammon-Sulph., Cypripedin, Iron Salts, Ozonic Ether, Picrotoxin, Potass. Bromid., Simulo, Sodii Bromid., Sodii Nitris, Strychnine, Valerianates, Zinci Bromid., Citras, Lactas, and Sulphas, *Elepizone*, *Nitroglycerine tablets or Liquor*, *Potassii Osmias*, *Scutellarin*, *Viscum album*.

Epistaxis.—*Internal*— Acid. Gallic., Aconite, Digitalis, Ergotin inj. hypod., Ferri Perchlorid., Ferri Pernit. Liq., Ferro-Alumen, Hamamelis, Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Hamamelis, Matico, Styptic Colloid, Urticæ dioicæ Ext. Liquidum.

Erysipelas.—*Internal*—Aconite, Belladonna, Digitalis, Ergot, Ferri Perchlorid., Veratrum viride.——*Local*—Acid. Sulphuros. Lotio, Amylum, Amyli Glycerin., Argent. Nit., Belladonnæ Glycerin., Calaminæ Lotio, Cocainæ Ceratum, Collodium, Creasotum et Amylum, Ergotine in Sol., Gossyp. Acid. Boric., Iodi Pigment., Potassii Silicatis Sol.

Erythema.—*Local*—Amyli Glycerin., Anthemid. Infus., Diachyli Ung., Kaolin and Lotio or Ung., Papav. Infus., Plumbi Subacet. Lotio., Vaseline, Zinci Oxid. and Ung.

Exophthalmic Goitre.—Belladonna, Digitalis, Duboisine, Iron Salts, Quinine preps.

Eye: Pupil, Contractors of.—Jaborandi and Pilocarpine, Opium and Morphine, Physostigma, Physostigmine,

Eye : Pupil, Dilators of.—Belladonna and Atropine, Cocaine, Daturine, Duboisine, Homatropine, Hyoscyamine, Nicotine, *Hyoscine salts, Mandragorine, Salicylate and Santonate of Atropine.*

Eye : Local Dilators, but Contract when given internally in suitable doses.—Gelsemine, Muscarine.

Fainting.—See **Collapse.**

Favus.—See **Parasites, Vegetable, of Skin.**

Fetid Breath.—See **Breath, Fetid.**

Fetid Perspiration.—See **Perspiration, Fetid.**

Fetid Nasal Discharges.—See **Ozæna.**

Fever.—Acid. Salicylic., Aconite, Ammon. Acet. Liq. and Carb., Antimony, Antipyrin, Belladonna, Chinoline, Cinchonine, Cinchonidinæ Sulph., Digitalis, Eucalyptus Globulus, Gelsemium, Kairine, Piperine, Potass. Acet. Chloras and Citras, Quinine preps., Quinidinæ Sulph., Quinetum, Salicin, Sodii Salicylas, Thallin, Veratrum viride, Warburg's Tincture, *Antifebrin, Antithermin, Phenacetin.*

Fissures of Nipples.—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit., Calcis Aqua, Cocainæ Hydroch. Liquor, Collodium Flexile, Hydrastis Tinct., Plumbi Subacet. Glycerin., Styptic Colloid.

Flatulence.—Acid. Carbolic., Acid. Sulphuros., Æther. Spt., Assafœtida, Bismuth preps., Capsicum, Carbo Ligni, Chloromorphiæ Liquor, Creasote, Magnesia preps., Menispermin, Menth. Pip. Ol., Nux Vomica, Sodii Bicarb., Sulphocarbolates, Zingiberis Tinct., *Tinct. Carminativa.*

Gall Stones and **Hepatic Colic.**—*Æther* Spt., Amyl Nitris, Anæsthetics, Chloral Hydras, Iridin, Morphine preps., Nitroglycerine, Podophyllin.

Gastralgia.—Acid. Hydrocyanic. Dil., Æther. Spt., Alkalies, Belladonna, Bismuth, Calcis Aqua, Cerii Oxalas, Chloroform, Chloromorphiæ Liq., Creasote, Magnesia, Manganesii Oxid., Pepsin, *Bismuthi Salicylas, Coca and Cocaina, Codeina.*

Gastric Catarrh.—See **Catarrh, Gastric.**

Glands, Enlarged.—*Internal*—Calcii Chlorid., Ferri Iodid. and Iron Salts, Iodoform, Iodum, Morrhuæ Ol., Potass. Iodid., Sodii Iodid.——*Local*—Cadmii Iodid. Ung., Hydrarg. Oleat. and Emplast., Iodi Decolor. Tinct., Iod. Linim. and Ung., Potass. Iodid. Ung.

Glaucoma.—*Local*—Physostigminæ Sulph., Pilocarpina.

Gleet.—See **Gonorrhœa.**

Goitre.—*Internal*—Acid. Hydrofluoric. Dil., Hydrarg. Biniodid., Iodum, Phosphorus, Potass. Iodid., Sodii Iodid. ——*Local*—Acid. Acetic. inj. hypod., Acid. Osmic. inj., Hydrarg Biniodid. Ung., Hydrarg. Oleat., Hydrarg. Ung., Iodi inj. hypod. T.H., Iodi Linim. and Ung.

Gonorrhœa.—*Internal*—Aconite, Copaiba, Cubebs, Iron Salts, Potash Salts, Saline Aperients, Santali Ol.——*Local*—Acid. Carbolic., Acid. Sulphuros., Acid. Tannic., Argent. Nit., Belladonna, Bougies Urethral (See Index), Eucalyptus Oil emulsified, Hydrarg. Perchlor., Hydrastis Tinct., Iodoform, Iodof. et Eucalypti Cereolus, Iodoformi Cereolus, Potass. Permang., Sodii Silicat. Sol., Zinci Chlorid. Permang. and Sulphocarb., *Antrophores of Thallin, Bismuthi Oxyiodidum.* ——*Internal*—*Kava-Kava, Resorcin, Salix nigra.*

Gout.—Aconite, Asparagin, Colchicum and Colchicin, Coto and Cotoin, Guaiacum, Lithii Carb. and Citras, Manganese Salts, Potass. Citras and Iodid., Sodii Phosph., Sodii Benzoas Hippuras and Iodid., Sulphides, *Kava-Kava, Lithii Hippuras, Sodii Taurocholas, Siegesbeckia orientalis.*

Gums, Inflamed, and Spongy.—*Local*—Alumen, Iodi Tinct., and cum Aconiti Tinct., Krameriæ Tinct., Myrrhæ et Boracis Tinct., Potass. Chloras, Pastil, Tablet and Troch., Pyrethri Tinct., Sodii Chloras and Troch., *Acid. Carbolic.*

Hæmatemesis.—Acid. Gallic., Acid. Sulph. Dil., Alumen, Ergota, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.

Hæmaturia.—Acid. Gallic., Antimony, Camphor, Cannabis, Ergota, Ferro-Alumen, Hamamelis, Terebinth. Ol.

Hæmoptysis.—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Alumen, Digitalis, Ergota and Ergotin, Hamamelis, Opium., *Abies Canadensis, Antipyrin, Atropine.*

Hæmorrhage.—*Internal*—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Cupri Sulph., Digitalis, Ergota, Ergotin, Eucalyptus Gum, Ferro-Alumen, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol —— *Local*—Acid. Tannic., Alumen, Catechu, Cupri Sulph., Eucalyptus Gum, Ferri Perchlorid., Ferro-Alumen, Hamamelis, Matico, Styptic Colloid, Zinci Chlorid. Liq.——*Internal —Hæmatoxylum, Potassii Succinas.*

Hæmorrhage, Post Partum.—*Internal*—Acid. Sclerotic., Amyl Nitris, Ergota, Ergotin inj. hypod., Ergotinini inj. hypod., Gossypii Rad. Cort., Opium with Alcohol.—— *Local*—Alumen, Ferri Perchlorid. Gossyp. and Liquor.— *Internal—Nux vomica, Strychnina and its salts.*

Hæmorrhoids.—*Internal*—Aloes, Cascara Sagrada Hamamelis, Liquiritiæ Co. Pulv., Piper. Conf., Rhamnus Frangula, Senna and Conf., Sulphur.——*Local*—Acid. Boric Ung., Acid. Nit. (caustic), Gallæ cum Opio. Ung., Hamamelis, and Suppos. of, Plumbi. Subacet. Glyc. and Ung.

Hay Fever.—*Internal*—Ammonii Chlorid., Anthoxanthum, Belladonna, Grindelia, Potass. Iodid., Quinine preps ——*Local*—Acid. Salicylic. Pulv., Bismuth. Co. Pulv., Carbolised Smelling Salts, Carbon. Tetrachlor. Vapor, Cocain, Hydroch. Liquor, Quininæ Collunarium, Stramonium Fumes.

Headache, Bilious or Sick.—Euonymin, Guarana. Hydrastis, Iridin, Juglandin, Leptandrin, Myricin, Podophyllin, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves.

Headache, Congestive or Inflammatory.—Actæa, Ammon. Chlorid., Antimony, Crotonis Ol., Hydrarg. Subchlorid., Ricini Ol., Veratri Viridis Tinct., *Salicylates of Sodium &c.*

Headache, Nervous.—Acid. Hydrocyanic., Actæa Ammon. Arom. Spt., Arsenic, Belladonna, Bromides, Butyl Chloral, Caffeine, Camphora, Cannabis, Cimicifugin, Ferri Valerianas, Guarana, Iron Salts, Nitroglycerine, Quininæ Valerianas, Theine, Zinci Lactas Oxidum and Valerianas.

Hectic Fever.—Acid. Benzoic. and Benzoates, Acid. Salicylic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Gelsemium, Quinine preps., Salicin, Salicylates.

Herpes, and Zoster.—*Internal*—Morphinæ. inj. hypod. (for pain), Quinine preps., Salines and Saline Aperients.——*Local*—Amyli Glycerin., Cocainæ Ceratum, Collodium, Hydrarg. Ammon. Ung., Menthol (for pain), Vaseline, Zinci Oleat. Ung., Zinci Ung.

Hiccough.—Æther. Spt., Camphora, Chloral, Chlorof. Spt., Morphine preps., Sodæ Bicarb., *Amyl Nitris*.

Hordeolum.—*Local*—Argent. Nit., Belladonnæ Fotus, Hydrarg. et Morphinæ Oleat., Iodi Tinct.

Hydrophobia—Anæsthetics, Amyl Nitris, Cannabis Indica and Cannabin, Chloral, Curara, Morphine, Nitroglycerine, Pelletierine, Physostigma and Physostigmine, Pilocarpine.

Hysteria.—Actæa, Asafœtida, Bromides, Cannabis Indica, Cypripedin, Iron Salts, Nux Vomica, Phosphorus, Pulsatilla, Quinine preps., Strychnine, Valerian and Valerianates, Zinc Salts.

Impetigo.—*Internal*—Arsenic, Iron Salts, Mineral Acids, Morrhuæ Ol., Phosphorus, Quinine preps., Zinc Salts.——*Local*—Acid. Tannic. Glycerin., Hydrarg. Ammon. Ung., and Hydrarg. Ammon. cum Sulph. Ung., Iodoform. and Ung., Zinci Oleat. Ung., Zinci Oxid. Ung.

Impotence.—Arsenic, Cannabis Indica and Cannabin Tannas, Cantharides, Coca and Cocaine, Damiana, Ergota and Ergotin, Ferri Perchlorid., Nux Vomica, Phosphorus, Sanguinaria, Strychnine, Zinci Phosphid.

Incontinence of Semen.—Belladonna, Ergota, Ferri Perchlorid., Ferri Phosph., and Ferri Quin. Strych. Phosph. Syrup., Gokhru, *Antipyrin*, *Salix nigra*.

Incontinence of Urine.—Belladonna, Calcii Phosph., Cantharides, Ergota, Ferri Iodid., Ferri Perchlorid., Gokhru, *Lycopodii Tinctura*, *Naphthalin*.

Indigestion.—See **Dyspepsia.**

Inflammation.—*Internal*—Aconite, Antimony, Belladonna, Digitalis, Gelsemium, Hydrarg. Subchlorid. and cum Opio, Opium, Quinine preps., Salicin, Veratrina, *Antifebrin*, *Antipyrin*, *Kairin*.

Influenza.—Actæa, Ammon. Acet. Liq., Æth. Nit. Spt., Ammoniæ Spt. Aromat., Antim. Tart., Camphor, Hydrocyanic Acid, Ipecac. Co. Pulv., Opium and Morphine preps., Quinine preps.——*Local*—Cocain. Hydroch. Liquor.

Insomnia.—Ammon. Bromid., **Bromal-Hydras**, **Butyl Chloral**, Camphor, Camphor Monobrom., Cannabis Indica and Cannabin, Chloral, Coca, Codeina, Hyoscyamine, Lupulin, Morphine, Narceine, Opium, Paraldehyde, Papaverina, Piscidia, Potassii Bromid., Sodii Bromid., Stramonium, *Antifebrin*, *Amyleni-hydras*, *Bromidia*, *Hypnone*, *Methylal*, *Strychnina and its salts*, *Sulphonal*, *Urethane*.

Intertrigo.—Acid. Boric. and Ung., Acid. Tannic. Glycerin., Calaminæ Lotio, Calcis Aqua, Calcii Carb., Camphor, Fullers' Earth, Kaolin, Vasoline, Zinci Cremor and Ung., Zinci Oleat. Pulv.

Intestinal Worms.—See **Parasites, Intestinal.**

Iritis.—*Internal*—Colchicum, Iodum, Hydrarg. Perchlorid. and Subchlorid., Potass. Iod.——*Local*—Atropina cum Vaselin., Atropinæ Sulph. Guttæ and Lamellæ, Belladonna, Duboisine.

Itch.—See **Scabies.**

Jaundice.—Acid. Nitro-Hydroch. Dil., Aloes, Ammon. Chlorid., Benzoates, Euonymin, Hydrarg. cum Cretâ, Hydrarg. Subchlor., Hydrastis, Iridin, Manganesii Oxid. and Mangan. Sulph., Podophyllin, Sennæ Co. Mist., Sodii Phosphas and Sodii Phosph. Efferves., Sodii Sulphas, and Sodii Sulph. Efferves., Stillingia, Taraxacum, *Ferri Succinas.*

Laryngismus Stridulus.—Amyl Nitris, Bromides, Chloral, Coninæ Hydrobrom., Emetin, Piscidia.

Laryngitis, Acute.—Aconiti Tinct. and Pastil., Æthyl Iodid. (for Œdema), Ammon. Acetat. Liq., Antimony, Benzoini Vapor, Hydrarg. Subchlor., Juniper. Vapor, Pulsatilla, Thymol Vapor, Acid. Tannic. et Aluminis Gargarisma, Acid. Tannic. Glycerin, Argent. Nit.——*Local—Acid. Lactic.*

Laryngitis, Chronic.—*Local*—Bismuthi Oxychloridi cum Morphinâ Insufflatio, Catechu Pulv. Insufflatio, Creasoti Vapor, Eucalypti Gum. Insufflatio, Juniperi Vapor, Pini Sylvestris Vapor, *Menthol paint and insufflation.*

Leprosy.—Anacardium, Gurjun Balsam, Gynocardiæ Ol.

Leucocythemia.— Digitalis, Hypophosphites, Iodine, Iron Salts, Phosphorus, Zinci Phosphid.

Leucorrhœa.—*Internal*—Iron Salts, Mineral Acids, Vegetable Tonics.——*Local*— Acid Carbolic. Lotio, Acid. Boric. Lotio, Alumen, Hydrastis, Pulsatilla, Potassii Permang., Sodii Silicat. Liquor, Tannin and Alum Injection, Zinci Sulphocarbolas, *Abies Canadensis, Boric Acid in powder.*

Locomotor Ataxy. — Argent. Nit., Argent. Oxid., Morrhuæ Ol., Phosphorus, Physostigma, Pilocarpine, *Antifebrin, Antipyrin.*

Lumbago.—*Internal*—Actæa, Atropine, Belladonna, Capsicum, Cimicifugin, Colchicum, Colocynthis, Morphina inj. hypod., Potass. Iodid.——*Local*—Atropinæ Linim., Belladonnæ Linim., Capsici Linim., Menthol Linim., Opii Linim., Picis Empl., Veratrinæ Ung.

Lupus.—*Internal*—Amyli Iodid., Arsenic, Gynocard. Ol., Iodum, Morrhuæ Ol., Phosphorus, Quinine preps.——*Local*—Acid. Chromic., Camphora Salicylata, Gynocardiæ Ung., Iodoform, Petrolei Ceratum, Zinci Chlorid. Pasta, Zinci Ung., *Acid. Lactic., Resorcin.*

Mammary Abscess. See **Breast, Inflammation of.**

Mania.—Actæa, Atropine, Bromides, Cannabis and Cannabin Tannas, Chloral Hydras, Conine, Daturine, Digitalis, Duboisine, Gelsemina, Hyoscyamine, Morphine preps., Opium preps., Paraldehyde, *Hyoscine salts.*

Measles.— Aconite, and Pastil of, Æther Nit. Spt., Ammon. Acet. Liq., Ammon. Carb., Ipecacuanha, Potass. Tart. Acida.

Melancholia.—Bromides, Camphora, Coca and Cocaine, Cannabis, and Cannabin Tannas, Musk, Nux Vomica, Phosphorus, Valerianates, *Damiana.*

Menière's Disease.—Acid. Salicylic., Bromides, Gelsemium, Gelsemine, Pelletierine.

Menorrhagia.—Acid. Gallic., Acid. Sclerotic., Acid. Sulph. Dil., Bromides, Cannabin, Digitalis, Ergota, Ergotin, Ferro-Alumen, Hamamelis, Iron Persalts, Vinca Major.

Milk, to increase flow.— Acid. Lactic., Jaborandi and Pilocarpine, Malti Ext.——*Local*—Jatropha Curcas, and Ricinus Communis, leaves and oil of.

Milk, to arrest flow.—*Internal*—Agaricus albus and Agaricin, Belladonna and Atropine, Conium, Ergota, Saline Purgatives, Sodii Iodid. —— *Local* — Belladonnæ Empl. Glycerin. and Linim., Tabaci Cataplasm.

Myalgia.—*Internal*—Actæa, Ammon. Chlorid., Atropine inj. hypod., Cimicifugin, Iron Salts, Morphina inj. hypod., Salicylates.——*Local*—Belladonnæ Glycerin. and Linim., Capsici Empl. and Linim., Ether Spray, Iodi Linim., Menthol, Opium (in poultice), Veratrinæ Ung.

Myxœdema.—Arsenic, Iron Salts, Jaborandi, Nitroglycerine, Pilocarpine, Strychnine Preps.

Nasal Catarrh.—See **Catarrh, Nasal.**

Nævi.—*Local*—Acid. Chromic., Acid. Nitric., Collodium, Sodii Ethylas, Zinci Chlorid. Iodid. and Nitras.

Nephritis.—Buchu, Copaiba, Gokhru, Hordei Dec., Jaborandi, Lini. Infus., Pareira, Santal. Ol., Triticum Repens, Uva Ursi.

Nervous Debility, Nervousness.—Acid. Hydrobromic., Acid. Phosph. Dil., Ammon. Bromid., Asafœtida-Camphora, Chloral Hydras, Cimicifugin, Cypripedin, Ignatiæ Tinct., Lavand. Co. Tinct., Phosphorus, Piscidia, Potass. Bromid., Quinine preps., Quininæ Valerianas, Salicin, Scutellarin, Strychnine, Sumbul, Zinci Valerianas, *Sulphonal*.

Neuralgia.—*Internal*— Aconite, Actæa, Ammon. Chlorid., Ari Succus, Arsenic, Beberinæ Sulph., Bromides, Butyl Chloral, Caffeine, Chloral-Hydras, Cinchonine, Cinchonidinæ Sulph. Colchicum and Colchicin, Conium and Coniinæ Hydrobromas, Gelsemium and Gelsemin, Hyoscyamine, Iron Salts, Narceine, Nitroglycerine, Phosphorus, Quinine preps., Quininæ Hydrobrom., Theine, Tonga. —— *Local* — Aconiti Linim., Aconitinæ Ung., Belladonnæ Linim. and cum Chloroform., Chloral Hydras cum Camphor, and cum Menthol, Chloroform, Delphinæ Ung., Menthol, Menthol Linim., Morphinæ Oleat., Oleanodyne, Opii Linim., Po-ho-yo, Veratrinæ Ung., *Chloroformum Aconiti*, *Delphina*, *Menthol cum Aconitina*, *Methyl Chloridum.—Internal— Antipyrin*, *Phenacetin*, *Salicylates and Salol*.

Night Sweats.—Acid. Gallic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Amyl Nitris, Atropine and inj. hypod., Belladonna, Calcii Chlorid., Coto and Cotoin, Homatropine, Hypophosphites, Ipecac. Co. Pulv., Iron Salts, Jaborandi and Pilocarpine, Muscarine Nit., Picrotoxin, Quinine preps., Zinci Oxid.

Nipples, Fissures of, and Sore.—See **Fissures of Nipples.**

Nymphomania and Satyriasis.— Bromides, Camphor, Conium, Tabaci Folia.

Obesity.—Alkalies and Alkaline Carbonates, Fucus Vesiculosus, Iodum, Potassii Iodidum.

Ophthalmia.—See **Conjunctivitis.**

Ophthalmia Tarsi.—*Local*—Acid. Boric. Lotio, and Ung., Hydrarg. Oxid. Flav. Ung., Iodoform. Ung., Glycerin, Plumbi Subacetatis Ung.

Orchitis.—Anemonin, Phytolacca.

Otorrhœa.—*Local*—Acid. Tannic. Glycerin., Argent. Nit. and Bism. Insuffl. T.H., Alum. Insuffl., Alum and Bism. Insuffl. T.H., Calendula, Carbonis Deterg. Liq. (as Lotion), Acid. Boric. Insufflat., Iodoform Wool and Insuffl. cum Bismutho T.H.

Ozæna.—*Local*—Acid. Boric. Lot. and Ung., Acid.

Carbolic. Buginarium, Aldehydi Vapor, Alumen, Alumin. Acet. Liq., Creasoti Vapor, Cupri Sulph. Buginarium, Eucalypti Globuli Infus. and Tinctura, Iodoformi Buginarium, Iodoformi Rosat. Ung., Potass. Permangan. Lotio, Sanitas (toilet), Sodii Chlorinat. Liq., Sodii Chlorid., Sodii Silic. Sol., Thymol Lotio, Zinci Sulphocarb., Zinci Sulph. Buginarium, *Hydrocotyle Asiatica.*

Palpitation.—Aconite, Bromides, Camphora, Cannabis, Cimicifuga, Convallaria, Digitalis, Valerianates.

Paralysis Agitans. — Hypophosphites, Hyoscyamus, Iron Salts, Phosphorus, Physostigma, Strychnine.

Paralysis, Diphtheritic.—Iron Salts, Pepsin, Nux Vomica, Ferri Iodid.

Paralysis, Hemiplegia. — Ergota, Iron Salts, Nux Vomica, Phosphorus, Physostigma and Physostigmine.

Paralysis, Paraplegia.—Ergota, Hypophosphites of Iron, Calcium and Sodium, Iron Salts, Ergota, Phosphorus, Physostigma and Physostigmine, Rhois Tinct., Strychnine.

Parasites, Animal, on Skin. — *Local* — Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio and Ung., Hydrarg. Ammon. Ung., Naphthalin Ung., Napthol Ung., Pyrethri Flores Pulv. and Tinct., Sapo viridis, Staphisagria, Sulphur Baths Lotion and Ung., Sulphurated Lime Lotion.

Parasites, Vegetable, on Skin.—*Local*—Acid. Boric., Acid. Carbolic., Acid. Chrysophanic. Ung., Acid. Sulphuros., Hydrarg. Oleat., Phosphor. Ol., Picrotoxin Pigment., Sodii Hyposulphit. Lotio., Thymol Ung.

Parasites, Intestinal Worms.—Areca (Ascarides and Lumbrici), Cambogia, Ferri Perchlorid. Enema (Ascarides), Filix Mas (Tænia), Hydrarg. Subchlorid., Jalapa, Kamala (Tænia), Kousso (Tænia), Mucuna, Pelletierinæ Sulph. and Tannas (Tænia), Quassiæ Enema (Ascarides), Santonin and Sodii Santonas (Ascarides and Lumbrici), Scammonium, Terebinth. Ol., *Naphthalin, Sethia acuminata.*

Peritonitis.—Aconite, Digitalis, Hydrarg. Subchlorid. cum Opio, Opium, Opium and Belladonna, Veratrum Viride, *Antifebrin, Antipyrin, Kairin.*

Perspiration, Excessive.—*Internal*—Acid. Phosph. Dil., Acid. Sulph. Aromat., Atropine and inj. hypod., Belladonna, Ergota, Jaborandi and Pilocarpine, Picrotoxin, Quinine preps.——*Local*—Amyli Pulv., Diachyli Ung., Kaolin, Tannin, Zinci Oleat. Pulv. and cum Thymol., Zinci Oxid., *Abies Canadensis, Naphthol.*

Perspiration, Fetid.—*Local*—Acid. Boric. Lotio. and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Pulv. cum Talco, Aluminii Acet. Lotio, Belladonnæ Linim., Diachyli Ung., Glycerini Plumbi Subacet. Ung., Salicylic Suet, Zinci Oleat. cum Thymol.

Phthisis.—Acid. Lactic. and Lactates, Aconite, Æthyl Iodid., Arsenic, Benzoates, Caffeine, Calcii Chlorid., Calcii Hypophosph. and Phosph., Codeine, Coto, Creasotum, Gynocardiæ Ol. (externally), Iodi Linim. and Vapor, Ipecac. Nebula, Iron Salts, Morrhuæ Ol., Pancreatin, Pepsin, Picrotoxin, Piscidia, Prunus Virginiana, Quinine preps., Salicin Salicylic Acid and Salicylates, Sodii Hypophosph., Terebenæ Vapor, Verbascum Thapsus, *Aniline treatment, Antifebrin, Antipyrin, Fluoric Acid and Ammonium Fluoride inhalations, Guaiacol, Menthol, spray of, Sulphuretted Hydrogen treatment.*

Piles.—See **Hæmorrhoids.**

Pityriasis.—*Local*—Acid. Boric. Lotio and Ung., Acid. Chrysophanic. Ung., Boracis Glycerin. and Lotio, Gynocardiæ Ung., Huile de Cade, Picis Ung., Glycerini Plumb. Subacet. Ung.

Pleurisy.—Aconite, Ammon. Acet. Liquor, Antimony, Bryonia, Jaborandi, Lyttæ Empl., Morphine preps., Potass. Iodid., Quinine preps., *Apocynum cannabinum for Pleuritic effusion.*

Pleurodynia.—See **Myalgia.**

Pneumonia.—Acid. Salicylic., Aconite, Ammon. Carb., and Chlorid., Antimony, Digitalis, Hyoscyamus, Morphine preps., Quinine preps., Salines, Veratrum viride.

Post Partum Hæmorrhage.—See **Hæmorrhage.**

Pregnancy, Vomiting of.—Belladonna, Bismuth preps., Cerii Oxalas, Chloroform, Creasote, Hydrocyanic Acid, Ingluvin, Ipecac. Vin., Iridin, Morphine preps. and inj. hypod., Nux Vomica, Pepsin, Quinine preps., *Antipyrin, Spt. Nucis Juglandis.*

Prurigo.—*Internal*—Arsenic, Bromides, Iron Salts, Pilocarpine, Quinine preps.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Borax, Cocainæ Ceratum, Iodoformi Ung., Pilocarpine, Staphisagria, Sulphur. Ung., Sulph. cum Hydrarg. Ung., Tar, *Ichthyol.*

Pruritus Ani, Vulvæ, &c.—*Local*—Acid. Benzoic., Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Ung., Acid. Sulphuros. Lotio, Alkalies (Lotion of), Alumen, Argent. Nit. Sol., Carbonis Liq. Lotio., Chloroformi Ung., Cocainæ Ceratum, Gallæ cum Opio Ung., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Subchlorid. Ung. and Lotio Nigra, Glycerini Plumbi Subacet. Ung., Potass. Cyanid. Lotio, Tannin, *Conii Ung.*

Psoriasis.—*Internal*—Arsenic preps., Cantharides, Gynocardiæ Ol., Hydrarg. Iodid. Viride, Iron Salts, Morrhuæ Ol., Phosphorus, Quinine preps., Sulphur.——*Local*—Acid. Carbolic. Ung., Acid. Chrysophanic. Ung., Acid. Pyrogallic. Ung., Acid. Salicylic. Ung., Betulæ Pyrolig. Ol., Carbonis Liq. Lotio, Fagi Pyrolig. Ol., Gynocardiæ Ol., Huile de Cade, and Ung., Ichthyol, Picis Ung., Rusci Pyrolig. Ol., Sulphides (in Baths), Sulphuris Hypochloritis Ung., *Lanolin, Mollin, Naphthol.*

Puerperal Fever.—Acid. Boric, Jaborandi and Pilocarpine, Ferri Perchlorid., Opium, Quinine, Terebinth. Ol., *Antifebrin, Antipyrin.*

Pupil of Eye: to contract and dilate.—See **Eye.**

Purpura.—Acid. Gallic., Acid. Sulphuric. Dil., Ergota, Iron Salts, Phosphorus, Quinine preps., Terebinth. Oleum.

Pyæmia.—Acid. Salicylic, Eucalyptus Globulus, Kairine, Quinine preps., Resorcin, Salicin, Sulphites.

Pyrosis.—Acid. Hydrocyanic., Acid. Hydrochlor. Dil., Acid. Nit. Dil., Acid. Sulphuros., Bismuth preps., Carbo Ligni, Cerii Oxalas, Magnesia, Manganesii Oxid., Sodii Bicarb., Sodii Sulphocarbolas.

Quinsy.—See **Throat Inflammation.**

Remittent Fever.—Apiol, Eucalyptus Globulus, Narcotina, Quinine and other Cinchona Alkaloids, Salicin, Warburg's Tincture.

Rheumatism, Acute.—Acid. Benzoic and Benzoates, Acid. Salicylic and Salicylates, Aconite, Actæa and Cimicifugin, Colchicum and Colchicin, Coto and Cotoin, Ferri Perchlorid., Lemon or Lime Juice, Opium, Ozonic Ether, Potass. Bicarb. Cit. and Nit., Quinine preps., Salicin, Trimethylamine, *Antifebrin, Antipyrin, Salol.*

Rheumatism, Chronic.—*Internal*—Actæa, Antim. Sulphurat., Arsenic, Cimicifuga, Cinchonidinæ Salicylas, Colchicum, Ferri Iodid. Syr., Ferri Salicylas., Gelsemium, Guaiacum, Iodum., Phytolaccin, Podophyllin, Potass. Iodid., and cum Quininâ, Rhus.——*Local*—Atropinæ Linim., Bellad. Linim. and Linim. Co., Camph. Co. Linim., Capsici. Emp. and Linim., Chloral cum Camphor., Eucalyptus Oil., Opii Linim., Pini Sylvest. Oleum.——*Internal—Betol, Gaultheriæ Oleum, Ichthyol, Lithii Hippuras, Pelletierina.*

Rheumatoid Arthritis.—Actæa, Arsenic, Colchicum, Ferri Salicylas, Lithii Carb. and Citras., Morrhuæ Ol., Potass. Bromid. and Iodid., Sulphides (Baths of).

Rickets.—Acid. Phosph. Dil., Calcii et Ferri Phosph. Pil., Calcis. Liq. Sacch., Calcii Chlorid., Calcii Phosph., Calcii Lactophosph. Syr., and cum Ferro, Ferri Phosph. Syr., and Comp., Morrhuæ Ol., Ferri Vinum, Wheat Phosphates Saccharated, *Liq. Ferri Hypophosph. Comp.*

Ringworm.—See **Tinea.**

Salivation.—*Internal*—Acid. Hydroch. Dil., Chlorates, Coto.——*Local*—Acid. Boric., Alumen, Borax, Chlorates, Creasoti Vapor.

Sarcinæ.—Acid. Sulphuros., Calcii Chlorid., Sodii Hyposulphis, Sodii Sulphis, Sodii Salicylas.

Satyriasis.—See **Nymphomania.**

Scabies.—*Local*—Calcis. Sulphurat. Lotio, Hydrarg. Perchlorid. Ung., Naphthalin Ung., Naphthol Ung., Potass. Sulphurat. Balnea, Styracis Ung., Sulphur. Ung., Sapo Viridis, *Mollin.*

Scalds.—See **Burns.**

Scarlatina.—Acid. Salicylic., Aconite, Ammon. Carb., Belladonna, Ozonic Ether, Potassii or Sodii Chloras, *Crotulus.*

Sciatica.—*Internal*—Actæa and Cimicifugin, Atropine, Colchicum and Colchicin, Croton Ol., Lithii Citras, Morphinæ inj. hypod., Potass. Iodid., Tereb. Ol.——*Local*—Aconitinæ Ung., Bellad. Linim., Chloroform Linim., Menthol, Menthol cum Camphorâ, Menthol Linim., Veratrinæ Ung., *Methyl Chloridum.——Internal—Potassii Osmias, Salol, Sodii Salicylas.*

Scrophula.—Calcii Phosph., Calcii Sulphid., Calcii Chlorid., Ferri et Calcii Phosph. Pil., Ferri Iodid. Syr., Ferri Phosph., Hydrarg. Iodid. Virid., Iodum., Iodoform., Morrhuæ Ol., Quinine preps., Rumicin.

Scurvy.—Lime Juice, Lemon Juice, Phosphorus, Potass. Chloras and Citras, Sassafras.

Sea-Sickness.—Amyl Nitris, Chloral Hydras, Chloroform., and Tinct. Co., Cocainæ Hydrochloras, Morphinæ inj. hypod., Nitroglycerine, Tablets ($\frac{1}{100}$ gr.), Potass. Bromid., Sodii Bromid., Sodii Nitris, *Antipyrin, Cocaine tablets and solutions, Resorcin.——Local—Icebags.*

Shingles.—See **Herpes Zoster.**

Sleeplessness.—See **Insomnia.**

Spasm.—Aconite, Æther, Ammon. Arom. Spt., Amyl Nitris, Atropina. inj. hypod., Cajeput. Ol., Camphora, and Camphor. Spt. Fort., Chloroform, and inhaled, Chloromorphiæ Liq., Conina, Menth. Pip. Ol., Opium, Piscidia.

Spina Bifida.—*Local*—Iodi Linim., Iodo-Glycerine inject.

Stomatitis.—*Internal*—Eucalypti Globuli Tinct., Hydrastis, Potassii Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Carbolic., Acid. Salicylic., Acid. Sulphuros, Alumen, Borac. Glyc. and Mel., Calcis Aqua, Cupri Sulph., Myrrhæ et Boracis Tinct., Sodii Chloras. *See Pastils.*

Sunstroke.—Apomorphina, Atropinæ inj. hypod., Enemata purgative, Morphinæ inj. hypod., Quinine, Sinapis Emplast.

Syphilis, Constitutional.—*Internal*—Ammon. Iodid., Amyli Iodid., Ferri Iodid. Syrup, Hydrarg. cum Cretâ, Hydrarg. Cyanid. Pil., Hydrarg. Iodid. Rub. and inj. hypod., Hydrarg. Iodid. Viride, Hydrarg. Perchlorid., Hydrarg. Pil., Hydrarg. Subchlorid., Hydrarg. Tannas, Iodum, Phytolacca, Potass. Iodid., Sarsa, Sodii Iodid., Stillingia, *Manaca, Hydrargyri Carbolas, Siegesbeckia orientalis, Succus alterans, Syrupus Acidi Hydriodici.*——*Local*—Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Ung., "*Grey Oil*" *inject., Lanolinum Hydrargyri.*

Syphilis, Skin Diseases.—*Local*—Hydrarg. Ammon. Ung., Hydrarg. Emplast., Hydrarg. Nit. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Ung., Hydrarg. Subchlorid Balnea, Fumigation and Ung., Hydrarg. Ung., Iodoformi Gossypium, and Ung., Pix Liquida, Resorcin.

Syphilitic Sore Throat.—Alum. Garg., Borax Garg. and Mel Boracis, Hydrarg. Cyanid. Garg., Hydrarg. Perchlorid. et Potass. Chlorat. Pastil., Hydrarg. Perchlorid. Garg., Iodoformi Insufflatio and Pastil., Potass. Chlorat Garg. Pastil. and Troch., Sodii Chloras Garg. and Troch., *Insufflatio Iodoformi Comp.*

Syphilitic Ulcers.—*Local*—Amyli Iodid Pasta, Hydrarg. Acid. Nit. Liq., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Flava and Nig. Lotio, Hydrarg. Subchlorid., Iodoform and Collodium cum Iodoformo, Iodoform Wool, Iodoformi Ung., Resorcin, Zinci Chlorid. Iodid. and Nitras, *Collod, Salicylic. c. Hydrarg. Perchlor., Iodol.*

Tetanus.—Amyl Nitris, Cannabis, Chloral Hydras, Conia, Curara, Gelsemium, Morphine, Nicotine, Opium, Pelletierine, Physostigma and Physostigmine, *Coninæ Hydrobromas, Urethane.*

Thirst, to Relieve.—Acid. Citric., Acid. Phosph. Dil., Acid. Sulph. Aromat., Acid. Tartaric., Coca, Elixir Acid., Potass. Tart. Acida.

Throat, Inflammation of, and Tonsillitis—*Internal*—Acid. Salicylic., Aconiti Tinct. and Pastil, Antimony, Belladonna, Ferri Salicylas, Quininæ Salicylas.——*Local*—Benzoin. Tinct. Vapor, Iodi Vapor, Juniperi Ol. Vapor, Chlorates in Pastil and Troch., Lupulin Vapor.——*Internal*—*Salicylates, Sodii Benzoas.*

Throat, Relaxed Sore.—*Local*—Acid. Carbolic. Pastil. and Vapor, Acid. Hydroch. Dil., Acid. Tannic Garg. and Glycerin., Alumen and Glyc. Aluminis, Argent. Nit., Benzoin. Tinct. Vapor, Bismuth. Pastil., Catechu Insuffl., Eucalyptus Gum Insuffl., Ferri Perchlorid. Pigment., Ferro-Alumen, Guaiaci Troch., Pini Sylvest. Vapor, Uranii Nitras, *Ammonii Chloridi Vapor, Geranium maculatum, Hydrastis as gargle.*

Thrush.—See **Aphthæ.**

Tinea Favosa, and Sycosis.—*Local*—Acid. Carbolic. Glycerin., Chrysarobinum, Acid. Sulphuros., Anacardium, Cupri Oleat. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio., Iodi Linim., Menthol, Picrotoxin Pigment, Sodii Hyposulph. Lotio, *Ichthyol, Lanolin.*

Tinea Tarsi.—See **Ophthalmia Tarsi.**

Tinea Tonsurans.—*Local*—As for **T. Favosa** and—Cantharid. Pigment, Hydrarg. Nit. Acid. Ung., Iodi et Olei Picis Pigment., Iodized Phenol, *Siegesbeckia orientalis, Coster's Paste.*

Tinea Versicolor.—*Local*—Acid. Chrysophanic., Acid. Sulphuros., Borac. Glycerin., Lotio Calcii Sulphurati, Gynocard. Ol., Sodii Hyposulph. Lotio.

Toothache. — *Internal*—Acid. Hydrobromic, Butyl-Chloral Hydras, Gelsemium, Gelseminæ Hydroch., Gelsemin., Morphinæ inj. hypod., Piscidiæ Ext. Fluid., Quin. Tinct. Ammon. ——*Local*—Acid. Arsenios., Acid. Carbolic., Butyl-Chloral cum Menthol, Caryophyll. Ol., Chloroform. cum Camph., Chloroform. cum Mastic., Cocaina, Creasotum, Iodi et Aconiti Tinct., Opii Tinct., Pyrethri Tinct., *Eugenol, Phenol-sodique, Potassii Permanganas.*

Trichinosis.—Ergota, Ergotin, and Sclerotic Acid.

Typhoid Fever.—Acid. Salicylic., and Salicylates, Ammon. Carb., Cinchona Alkaloids, Ergota. (for Intestinal Hæmorrhage), Eucalyptus Globulus, Kairine, Sodii Chloras, *Thallin.*

Typhus Fever.—Antimony, Ammon. Carb., Belladonna, Cinchona Alkaloids, Eucalyptus Globulus Hydrastis, Kairine.

Ulcers.—*Local*—Acid. Boricum Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Gossypium and Ung., Argent. Nit., Belladonnæ Glycerin., Carbonis Cataplasm, Chartazinc, Collodium, Cupri Oleat. Ung., Eucalypti Ung., Fermenti Cataplasm., Hydrogen Peroxid., Plumbi Subacet. Glycerin. and Ung., Potass. Permang., Resinæ Ung., and Res. Ung. cum Chlorof., Sanitas, Styptic Colloid, Zinci Chlorid., Zinci Oleat. Ung., Zinci Sulph. Lotio, *Bismuthi Oxyiodid, Eucalembroth gauze, Eucalyptus Sawdust, Galium aparine, Iodol, Lanolin, Naphthalin, Papain, Salol.*

Urine, Incontinence of.—See **Incontinence.**

Urine, Tests for Albumen. — Acidulated Brine; solution; Millon's test; Picric Acid; Sodium Tungstate Ferrocyanic Acid Pellets; Iodo-mercurate of Potassium papers.

Urine, Tests for Sugar.—Ammoniated cupric test of Pavy, Cupric Pellets, Fehling's solution, and glass capsules of; Indigo-carmine papers; Phenyl-hydrazine Hydrochlorate.

Uræmia.— Amyl Nitris, Caffeine, Digitalis, Elaterin, Pulv. Co., Jaborandi and Pilocarpine, Jalapæ Pulvis Co., Nitroglycerine, Scilla, Scoparii Succus, *Apocynum Cannabinum, Lithii Hippuras, Sodii Benzoas.*

Urticaria.—*Internal*—Apis Mellificæ Tinct., Bromides, Mistura Alba, Sodii Bicarb.——*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio, Acid. Carbolic. Lotio, Acid. Hydrocyanic. Dil. Lotio, Chloroform. Ung., Cocainæ Ceratum, Plumbi cum Lacte Loto, Sodii Carb. Balnea.

Uterus, Catarrh of.—See **Catarrh, Uterine.**

Uterus, To cause Contraction of.—Borax, Caulophyllin, Cimicifuga, Ergota, Ergotin, Ergotinine, Gossypii Rad. Cortex., Hamamelis. Sclerotic Acid, *Hydrastis, Ustilago Maidis.*

Variola, To prevent Pitting.—Acid. Boric. Ung., Acid. Carbolic. Ol., Amyli Glyc., Argent Nit., Calcis Linim., Collodium, Hydrarg. Ung., Styptic Colloid., Zinci Oleat. Ung.

Vertigo.—Caffeine, Guarana, Quininæ Valerian., Quinine, Ammon.-Spt. Arom., Strychnine, Zinci Valerianas.

Vomiting.—Acid. Carbolic, Acid. Carbonic., Acid. Hydrocyanic. Dil., Beef Essence (Brand's), Belladonna, Bismuth Preps., Calcii Chlorid., Calcis Aqua, Cerii Oxalas, Chloral, Chloroform preps., Ingluvin, Ipecacuanha, Liquor Sodæ Effervescens, Magnes. Carb. Liq., Morphinæ inj. hypod., Nitroglycerine, Nux Vomica, Potass. Bicarb. cum Acid. Citric. Mist. Efferves., Sodii Phosph. Effervescens, *Berberina, Coca and Cocaina.*

Warts and Corns.—*Local*—Acid. Acetic. Glaciale, Acid. Carbolic., Acid. Chromic., Acid. Nit., Boroglyceride, Collodium Salicylicum, Collodium Callosum, Anacardium, Argent. Nit., Iodi Linim., Papayotin, Potassæ Liquor, Thuja, *Collodium Salicylicum c. Acid. Lactic.*

Whooping-Cough.—Acid. Benzoic. and Benzoates, Acid. Hydrocyanic. Dil., Alumen, Amyl Nitris, Atropine, Belladonna, Bromides, Bryonia, Calcis Aqua, Camphora Monobrom., Cannabis, Chloral, Conium, Ergot, Gelsemium, Grindelia, Himrod's Cure, Lobelia, Narceina, Opium, Ozonic Ether, Potass. Carb., Senega, Succini. Ol. (external), Stramonium, Zinci Oxid. and Sulphas.——*Internal*—*Acidum Carbolicum, Apomorphinæ Hydrochloras* (*minute doses*).

Wounds.—*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio and Ung., Acid Carbolic. Carbasus Lotio and Ung., Acid. Salicylic. Lotio and Ung., Aluminii Acet. Lotio, Arnica, Benzoin. Tinct., Calendula, Camphora Salicylata and Gossypium, Chartazinc, Collodium, Eucalypti Carbasus and Ung., Hydrarg. Perchlor. Lotio, Iodoform, Iodoform Wool and Ung., Kaolin Ung., Petrolei Cerat., Plumbi Subacet. cum Petroleo Ung., Potass. Permang., Resorcin, Styptic Colloid, Thymo, Lotio, Zinci Chlorid., Zinci Sulphatis Lotio, *Alembroth gauze, Emplastrum Lithii Ichthyol., Eucalembroth gauze, Iodol, Lanolin, Salol, Sanitary Wood Wool Wadding, Sodii Fluosilicas, Sphagnum, Sublimate Lotiforms.*

Yellow Fever.—Antifebrin, Antipyrin, Cinchonine, Kairine, Jaborandi, Pilocarpine, Piperina, Quinina, Warburg's Tincture.

Zoster.—See **Herpes.**

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